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PRIMARY ENLARGEMENT OF THE SPLEEN.

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Enlargement of the spleen is seldom primary. This is in marked contrast to the frequency of secondary splenomegaly.

The spleen is rarely the seat of a primary new growth, either malignant or benign. Cases of primary splenic enlargement are usually accompanied by anæmia, and are generally classed as examples of splenic anæmia. The term splenic anæmia, however, is used to denote several different diseases. We have recently had the opportunity of observing a case of primary endothelioma of the spleen accompanied by anæmia, and within the last few months one of us has seen four or five cases of "splenic anæmia." It seemed, therefore, that a paper based on these observations might be of interest.

I. Primary Neoplasm of Spleen.

The literature on primary new-growths of the spleen is very meagre, but has been collected by M. M. Charles Foix and A. Roemmele(1) up to the beginning of 1912. In introducing their paper on a case of primary sarcoma of the spleen they truly remark that the history of splenic new growths constitutes one of the most obscure chapters in pathology. It is because of the obscurity and rarity of these cases that we bring under your notice an example of primary endothelioma of the spleen.

Case I.—The patient was a married woman of 55 years, who was admitted to the Adelaide Hospital on March 29, 1914. She complained of pains all over the body, with increasing weakness and wasting during the last three months. Her family history showed no hereditary predisposition. She had had seven miscarriages, and then a living child, followed by a second. She passed the menopause eight years ago. Six years ago she had a stroke, which left her left arm and leg helpless, but she had quite recovered from the hemiplegia in a few months.

Examination showed a thin elderly woman lying on her back. Her skin was rather bloodless looking, but was generally pigmented of a greyish rather than a bronze hue. Her sclerotics were very white, and her mucous membranes pale. Her pulse was 88, and temperature normal. In spite of the history of hemiplegia there was no unilateral weakness, and the reflexes were normal.

The heart was slightly enlarged. The percussion note over the bases of both lungs was impaired, and there were diminished breath sounds and a few crepitations to be heard over these areas. The spleen could be felt as a firm mass of the normal shape of the organ extending nearly as low as the umbilicus, and one inch from the midline. The liver was palpable and firm. The right kidney could be felt. The felt and ankles were rather œdematous. The urine was not abnormal.

The Blood.—Wassermann's test (original method) was negative. The erythrocytes numbered four million, and the leucocytes 16,000 per c.mm. The hæmaglobin was 64 per cent., so that the colour index was low. The film showed anisocytosis and polychromasia of the red cells. Nucleated red cells were present in abundance, three or four could be seen in a single high-power field, although the film was thinly spread. Normoblasts predominated, but megaloblasts were present in the proportion of about one to three normoblasts. The white cells gave the following differential count:—

Polymorpho-nuclear neutrophile cells, 50 p.c.
Polymorpho-nuclear eosinophile cells, 2 per cent.
Transitional cells, 2 per cent.
Large mono-nuclear cells, 25 per cent.
Lymphocytes, 18 per cent.
Myelocytes, 3 per cent.

On April 3 fluid was aspirated from the left pleura. It contained red cells, lymphocytes and large endothelial cells.

Ascites developed later, and the patient gradually became weaker. The pains were much less for the last few weeks of her life. Slight jaundice appeared during the last week. She died on April 13, 1914.

Autopsy.—The body was that of a rather wasted elderly woman, slight jaundice, circular pigmented scar on middle of the inner surface of left leg. On opening the abdomen the liver was found to be enlarged, and its surface was beset with whitish discs, in diameter from 1-6 c.m., with umbilicated centres. The spleen was large, hard, yellow and adherent to the diaphragm. There was a small amount of clear fluid in the abdomen. A general survey of the contents of the thorax showed the right pleural cavity to be natural; the pericardium not distended; the left pleura contained about 300 c.cm. of clear fluid. The left dome of the diaphragm was pushed upwards by an enlarged spleen causing collapse of the lower lobe of left lung. The visceral pleura of both lungs showed scattered whitish discs of about 0.5 c.m. in diameter, which felt tough, and resembled those in the liver.

The brain showed normal vessels except for slight patchy atheroma. The membranes were normal. There wa sa contracted scar in the anterior part of right lenticular nucleus, impinging on the anterior portion of the right internal capsule.

The Heart.—Pericardium and endocardium were natural, and the coronary arteries slightly atheromatous. The myocardium showed no gross change. The abdominal aorta showed extreme atheroma in all stages.

The right lung was slightly emphysematous. Throughout the lung were whitish sparsely scattered bodies, most numerous in lower lobe, where about 8-10 were seen in the section. The left lung also showed a few of these bodies; the lower lobe was completely collapsed.

The buccal cavity, pharynx, œsophagus, stomach, intestine and appendix were normal. The pancreas, gall-bladder and ducts normal.

The liver weighed 64 ounces (1920 grms.), was hard, yellowish and granular, the surface showing scattered circular deposits of whitish, tough umbilicated new growth 1.6 cm. in diameter; these were most numerous near anterior lower edge, but could be seen on all parts. On section the substance seemed cirrhotic. Secondary growths were seen in liver tissue as well as a diffuse whitish interstitial infiltration. The kidneys showed no abnormality. The uterus was small, retroposed, adherent and distorted by numerous small interstitial myomata. The spleen was considerably enlarged, and weighed 900 grms. Its shape was normal; the capsule was adherent to the diaphragm, and the organ was extremely hard. On section a remarkable marbled appearance was seen, whitish dense areas combining with yellowish firm tissue. There were a few small scattered areas of calcification in the yellow tissue.

No enlarged lymph glands could be found in any part of the body. Both suprarenals were normal. The marrow in right tibia showed red hyperplasia, and showed no fatty areas.

From the forgoing account the following main facts emerge:—There is a primary new-growth of the spleen with secondary deposits in the liver and both lungs. The growth is evidently disseminated by the blood, as no involvement of lymph glands could be discovered. The pre-existence of a syphilitic infection is suggested by the scar on the inner surface of the leg, the atheroma of the cerebral and coronary arteries, and of the abdominal aorta and scar in right lenticular nucleus.

Microscopic Examination.—The spleen: Under the low power it is seen that there is extensive degeneration. The capsule is not appreciably thickened. There is no evidence of any normal spleen parenchyma.

There are bands and islands of new-growth irregularly distributed throughout the section, and intimately connected with the areas of degeneration. There is apparently more degenerated than living tissue, and the appearance is the same in a section taken from the centre of the organ as in one taken from the periphery. Remains of the trabeculæ can be seen more or less degenerated. It is impossible to find an area which would give one some clue as to the origin of the new-growth. The degenerated areas are areas of degenerated new-growth; they are irregular in distribution, and sometimes at the juncture of these areas and the living tissue there is a round-cell infiltration. The round cells are apparently invading the new-growth which is degenerating.

The cells of the new-growth have large, well-stained nuclei. They are often arranged in columns, and sometimes give an alveolar appearance. It is seen that they are intimately connected with blood vessels.

Under the high power it is seen that the tumour cells have large nuclei usually oval in form, but sometimes round, and at other times spindle-shaped. The majority appear to have no evidence of a nucleolus, but sometimes a faint nucleolus can be determined more or less in the centre of the nucleus. The chromatin is arranged in reticular fashion, and is denser and less reticulate in the more spindle forms. Mitosis is extremely uncommon. The cells have a small amount of delicate, granular protoplasm. Often, running up the middle of a column of tumour cells is seen a capillary blood vessel filled with red blood cells. The cells lining the capillary are more spindle in form, and the more oval cells are seen to radiate from the central capillary. It is only possible to trace this capillary for a short distance when it appears to dip or turn, and become lost. Often it is seen that the cells are pressing on, and obliterating the central vessel. Later these central vessels undergo hyaline degeneration. At times the cells appear either to have lost this arrangement, or to have no definite arrangement at all. The cells are prone to degeneration, and there are many "signet ring" forms to be seen. The degeneration in the large areas appears to be in the nature of a coagulation necrosis.

The liver: The large umbilicated areas show new-growth very similar in appearance to that seen in the spleen. Degeneration is extensive. Radiating out from these definite areas are numerous extensions of the new-growth. Under the low power of the microscope it is seen that the tumour cells are sometimes very alveolar in arrangement. At the periphery of the alveoli are seen spindle-shaped cells, and between these blood corpuscles are often to be seen. The tumour cells are extending between the columns of liver cells, which are atrophying and disappearing. There is sometimes a slight round cell infiltration at the extending edge of the new-growth. The alveolar arrangement merges into an arrangement of the cells into columns, and it is apparent that the columns are more or less circular, and when cut transversely an alveolar appearance is given to the cell groups. Under the high power the appearance is practically the same as in the spleen, except that the cells for the most part are more regular in form, nucleoli in the cell nuclei more often met with, and occasionally irregular mitotic figures can be seen. Degeneration is common even in these extensions, and is in the nature of a coagulation necrosis. The cause of the degeneration may be due to the obliteration by pressure of the capillaries which run between the columns of cells.

The lung: The metastatic new growth in the lung shows the same histological picture as is found in the liver and spleen. The blood vessels are more engorged and therefore more marked than in the other situations. In one part is seen an artery, the wall of which has become invaded by the new-growth, which, extending in the intima, is obliterating the lumen of the vessel.

Commentary.—The diagnosis of this case was difficult. The history of frequent miscarriages, followed by the birth of two living children, and the statement that the patient had been hemiplegic, and had completely recovered, seemed to suggest that she had been infected with syphilis, although the Wassermann test was negative. It seemed as though the condition must be either (1) splenic anæmia, (2) tertiary syphilitic fibrosis of spleen and liver with an anæmia, (3) malignant disease of the spleen or liver or both, or (4) hepatic cirrhosis with secondary splenomegaly. The occurrence of jaundice during the last 10 days of life rather suggested the latter hypothesis. However, one was rather inclined to regard the condition as a syphilitic one, with anæmia of the tertiary syphilitic type mentioned by Parkes Weber, of London. The possibility of its being a primary splenic tumour was discussed with the clinical clerks, but one did not diagnose it on account of its extreme rarity; and further on account of the result of the blood examination. The age of the patient seemed an argument against the disease being splenic anæmia of any recognised type. With hepatic cirrhosis causing splenomegaly one should have expected more marked signs of severe portal obstruction.

The most remarkable feature was the extraordinary number of nucleated red cells present in the blood. This must be considered in relation to the comparatively mild degree of anæmia. There was evidently a very marked reaction on the part of the marrow. We could find no evidence of bone metastasis, so that the phenomenon is even more difficult to account for. It was perhaps a "blood crisis" such as sometimes seen in pernicious anæmia. Primary malignant tumours of the spleen are pathological curiosities. Scarcely a dozen have been reported. The growth may be endotheliomatous, or sarcomatous, or lymphomatous. Gaucher has described the condition of the spleen which is found in the disease called after him as epitheliomatous. It is difficult to agree with this terminology, as there is no epithelial elements in the normal spleen.

The whole question is fully discussed by Foix and Roemmele(2) in their contribution. They describe a special form of splenic sarcoma which they name "le reticulo-splenome nodulaire."

They distinguish first of all between tumours in the strict sense and splenomegalies. They are of the opinion that neoplasms of the spleen are limited to two affections, viz. (1) the disease of Gaucher, and (2) sarcoma of the spleen which has been described by different authors under the various names of cancer, sarcoma, lymphadenoma, lymphosarcoma and lyphoma. They point out that the disease of Gaucher is relatively slow in progress, usually juvenile, and it is probable that it is sometimes congenital. Anatomically this affection is characterised by a diffuse distribution. It is an affection of the whole hæmopoietic system, but striking equally the liver, lymph glands, and bone marrow. Under the microscope the cells are seen to be flat with a small nucleus and much protoplasm, alveolar in arrangement, and recalling a pavement epithelium. Mitosis is exceptional.

They give a full description of their case of sarcoma of the spleen. Examination of the blood gave the following results:—

Erythrocytes	3,850,000	
Leucocytes	12,500	
Hæmoglobin	70	(Gower's)

The differential count of the leucocytes was:—

Polymorpho-nuclear neutrophile cells	89 p.c.
Small lmphocytes	7 p.c.
Large mononuclear cells	3.5 p.c.
Eosinophile cells	0.5 p.c.

At the post-mortem examination the following were found to be affected with the new-growth:—The spleen and perisplenic lymph glands, the suprarenals, and the bone marrow.

The spleen was very large, weighed 1,400 grms., was 26 cm. long, 13 cm. wide, and 8 cm. in antero-posterior diameter. The organ had the appearance of granite. There were numerous nodules separated by a network of tissue apparently the remains of the normal spleen tissue. In one part the nodules had tended to fuse. The condition had apparently arisen in the Malpighian corpuscles, and normal splenic tissue was to be found squeezed between the growing nodules. An accessory spleen was likewise affected.

II. Splenic Anæmia.

This condition is one of considerable interest, largely from the fact that splenectomy seems to cure certain cases. Hence the importance of differentiation. The term splenic anæmia has been used to denote all those cases in which the spleen is primarily enlarged, and in which anæmia is present. The anæmia may have the characteristics of a secondary anæmia, or may be of the pernicious type, with a high colour index, characteristic changes in the red cells, and diminution of leucocytes.

There are three groups of cases of splenic anæmia, and probably a fourth if we include acholuric familial, or hereditary jaundice.

It is conceivable in any case of splenomegaly with anæmia that the spleen may be enlarged as a result of changes in the blood and blood-forming organs, or that the anæmia may be due to morbid functioning of the spleen. In splenic anæmia it is possible that the blood destruction carried on by the normal spleen is exaggerated, and the blood is thus impoverished of its formed elements.

In acholuric or hæmolytic jaundice the red cells are more fragile than in health, and are thus presumably more readily broken up in the splenic pulp. As a consequence of its increased function the spleen enlarges. That splenic enlargement may be due to excessive hæmolysis is shown by the splenomegaly so common in pernicious anæmia. Splenic anæmia is divided into three more or less clearly defined types:—

1. **Banti's Disease.**—The condition is of unknown ætiology. It is extremely chronic, lasting from 10 to 20 years or more. It is characterised by occasional acute exacerbations and febrile attacks. As far as is known, it always ends fatally, unless the patient dies of some intercurrent affection, or unless the spleen is removed. Medical treatment is never curative.

Aetiology.—That the condition may be hereditary is shown by a remarkable series of cases published by Springthorpe and Stirling, and many others. Some observers, however, deny that Banti's disease is hereditary, and maintain that those cases described as hereditary Banti's disease are really examples of familial hæmolytic jaundice without the icterus. The condition may possibly be an infection. Dr. A. G. Gibson, of Oxford, has recently described six cases of splenomegaly in which, after death, he was able to demonstrate a streptothrix in the spleen pulp. This organism was not cultivated, and inoculation experiments were not performed, so that one can only conjecture as to its relationship with the disease.

The condition appears first in early life as a painless enlargment of the spleen. There may be no anæmia at first. Later the patient becomes anæmic. Hæmorrhages from mucous surfaces and purpura often occur. The liver becomes cirrhotic. Ascites may appear. The patient often suffers from obscure febrile attacks, and may have pain in the splenic region from time to time. Jaundice is usually rather a late symptom, and seems to be due to cirrhosis of the liver rather than to hæmolysis.

2.—**Von Jaksch's form.**—This disease occurs in children under the age of 2 years. The spleen is much enlarged, and the liver may be also. v. Jaksch called the disease anæmia pseudoleukæmia infantum. Many writers believe that this is not a disease sui generis, but that the enlarged liver and splenomegaly are due to some constitutional condition such as congenital syphilis or rickets. The anæmia is of a secondary type. The colour index is low, and the number of leucocytes are considerably increased, 30,000 to 40,000 being not uncommon. The condition is not necessarily fatal, and the child may recover if placed in favourable circumstances as to nourishment and environment.

According to Robert Hutchison, splenectomy is unjustifiable in von Jaksch's disease.

3. **Gaucher's form** of Splenic Anæmia.—Only 14 or 15 examples of this rare disease have been described. It is usually a familial condition, but is not hereditary, and the patients have almost always been of the female sex. Clinically it is characterised by great enlargement of the spleen and enlargement of the liver. The skin is brownish, there is seldom jaundice, and ascites is never found. Pathologically the spleen is immense, weighing up to 7,000 grams. The spleen, liver, lymph glands and bone marrow are invaded by large flat cells, which have small nuclei and a large amount of protoplasm. They resemble pavement epithelial cells, and are arranged in alveoli. These cells are of endothelial origin, and the condition has been regarded as an endothelioma.

Marchand and other observers dispute this view, and hold that the condition is a metamorphosis rather than a neoplasm of the endothelium.

4. **Acholuric familial jaundice** (synonym, hæmolytic jaundice.—This is a condition which is in the majority of cases hereditary or familial. It is characterised by enlargement of the spleen, anæmia of a secondary type, slight or severe, and recurrent jaundice.

During the icteric attacks the urine remains free from bile. The red cells show increased fragility to heterotonic solutions of saline. Many members of a family for three or four generations may be attacked, both male and female. But sometimes only males, and in other instances only females suffer.

Children may be affected from birth, whilst in other cases (the most numerous) they are affected in late childhood. The jaundice may be present constantly from birth, or more usually it is transient and recurrent. The blood shows leucocytosis as well as a secondary anæmia. The jaundice is thought to be a cholæmia from breaking down of the red cells. (Compare the yellowish tinge in pernicious anæmia). The breaking down of the red cells is possibly due to an autogenic hæmolytic toxin of hæmic or splenic origin.

There is no tendency to spontaneous hæmorrhages. Severe attacks of pain in the splenic region may occur from time to time.

Cases of cure of acholuric familial jaundice by splenectomy have been reported by Herbert French and others.

There is doubt as to whether this condition should be classed as an example of primary splenic disease. Change can be recognised in the erythrocytes in these cases. The red cells are more fragile and hæmolysis occurs in saline solutions of a strength more nearly approaching normal than in health.

Presumably therefore the envelope of the red cell ruptures under a slighter osmotic pressure than in health. But cases have been described in which this phenomenon has not been observed, and further cases have been recorded in which cure has followed splenectomy, so that it is possible that the fragility of the red cell is not the essential of the disease, or that the fragility may be caused by an enzyme of splenic origin. In many respects the condition resembles Banti's disease, but there are several points of difference, viz.:—

1. The liver in Banti's disease is usually enlarged or cirrhotic. Changes are less frequent in acholuric familial jaundice.

2. Jaundice is a late sign in Banti's disease, and when present it is usually persistent, and is accompanied by choluria. In acholuric familial jaundice, jaundice may be early. It may be persistent, or it may appear and disappear again from time to time.

3. In Banti's disease leucopœnia, and in acholuric familial jaundice leucocytosis, are usually present.

4. Acholuric familial jaundice is not characterised by spontaneous hæmorrhages, whereas these are often a feature of Banti's disease.

5. Acholuric familial jaundice is a less severe disease than Banti's disease, although both are chronic, and apparently show no spontaneous tendency to cure.

6. Banti's disease is said by many observers not to be hereditary. Most cases of acholuric familial jaundice are hereditary.

Case II.—Some few months ago one of us (C. de C.) was shown a blood film by Dr. A. A. Lendon, which had been obtained from one of his patients in the Children's Hospital. The film showed secondary anæmia. The only other symptom exhibited by the child, in addition to the anæmia, was enlargement of the spleen. Diagnosis in this case was that of splenic anæmia. The interesting feature is that Dr. Lendon had removed the spleen of the mother on account of its large size two years before the child's birth. Hence we must assume that it was the tendency to the disease which was inherent, or else that the virus (if such there be) may exist in organs or tissues other than the spleen. The mother had shown no gross anæmia, and had been well since the operation.

Case III.—Splenic Anæmia of the Banti type (seen with Dr. Percy Bollen, of Semaphore).—B. is rather an undersized youth of 18, who heads an active out-of-door life, although he is rather short of breath on exertion. He has been always rather "delicate." Three years ago during an attack of "bronchitis" his spleen was found enlarged by Dr. P. Bollen. On examination on 23/8/13, an enlarged firm spleen was found extending to within 5 cm. from the midline and downwards to midway between the costal margin and the iliac crest.

The blood examination was as follows: —

Erythrocytes	4,240,000 per c.mm.
Hæmaglobin	70 per cent.
Colour index	0.8
Leucocytes	8,900 per c.mm.

The red cells show anisocytosis, polychromasia, with a few cells showing basic stippling. No megaloblasts are seen, but normoblasts are present to the extent of one to 100 leucocytes.

The white cells give the following differential count:—

Polymorphonuclear neutrophile cells	80 p.c.
Polymorphonuclear eosinophiles ..	1 p.c.
Large mononuclear and hyaline ..	6 p.c.
Small lymphocytes	13 p.c.

The liver was normal in size. There had been no hæmorrhages and neither jaundice nor ascites were present. The urine was normal. The patient has been enjoying fairly good health since.

Case IV.—C.D., a boy aged 8 years, seen on 8/10/13, with Dr. W. A. Verco, to whom we are indebted for the history.

The spleen of this boy's mother was found to be enlarged by Dr. W. A. Verco. Her blood was not examined. The child complained of a sore throat of two weeks' duration. He had been pale since an attack of mumps in May, 1913, and had been getting gradually paler and short of breath. He was irritable, languid, and easily tired, although he had been walking two miles to school every day. He had not lost flesh. Quite recently he had been feverish, his temperature going up to 103° F. When seen he had been in bed for a week. His heart, lungs, abdominal organs (except his spleen) and urine were normal, and the nervous system was normal.

The spleen was sufficiently large to be easily palpable. There were no enlarged lymph glands to be felt. In the right tonsil there was a whitish mass in one of the follicles, but the tonsil was not enlarged.

After a week in the hospital he was much better. The fever subsided, and the soreness of the throat disappeared. A slough came out of the right tonsil, leaving a hole which gradually healed.

He was sent back to the country with medicine containing iron and arsenic, to see if he would become sufficiently well to enable Dr. Verco to remove the spleen.

The blood examination (8/10/14) gave the following result:—

Hæmaglobin	40 per cent.
Leucocytes	2,100 per c.mm.

Film: Erythrocytes.—The red cells stain feebly; there are anisocytosis and polychromasia; nucleated forms are seen, all of which are normoblasts.

Leucocytes.—Differential count:—

Polymorpho-nuclear neutrophile cells	12 p.c.
Polymorpho-nuclear eosinophile cells	2 p.c.
Polymorpho-nuclear basophile cells	1 p.c.
Transitional cells	4 p.c.
Large mononuclear cells	58 p.c.
Lymphocytes	23 p.c.

One normoblast was seen to every 100 white cells.

3/11/13.—He was improved and looked better, but had a pustule on the right hand.

5-11/13.—His nose began to bleed. Five days later he was brought to the private hospital, and though all precautions were taken to stop the epistaxis, it continued with intermissions until he died on November 25th, practically exsanguine.

Commentary.—This case is an example of the hæmorrhagic tendency of Banti's disease. The cause of the hæmorrhage seems difficult to determine, but

this tendency is found in the majority of cases of severe blood disorder (e.g., pernicious anæmia, leukæmia).

The small number of leucocytes, especially of the polymorpho-nuclear variety is characteristic of Banti's disease, especially when severe. Perhaps the low phagocitic power of the blood predisposed to the sepsis of the tonsil and the hand. The acuteness of the disease was certainly an unusual feature.

His blood was not tested for hæmolysis.

Case VI.—D.B., a boy aet. 18, seen with Dr. Dawkins on July 25, 1914. He complained of hæmorrhage from the stomach. He is the youngest of a family of 11, of whom two are dead, one of pneumonia, the other, a girl, died from a fall, but the patient says that she was subject to hæmorrhages.

His first hæmorrhage was in March, 1913, when he vomited a cupful of blood. Since then he has had two other attacks of hæmatemesis. The last one was very severe, so that he was much weakened by it. He weighs 11 stone 4 lbs. (dressed). He is a well-developed youth, rather pallid, but not intensely. His heart, lungs, urinary and nervous systems are normal. The liver dulness is of normal extent. The spleen is enlarged, so that it projects beyond the costal margin by about 2½ inches, and can easily be felt at all stages of respiration. There is no jaundice or ascites, and he seems fairly well.

Blood.

Erythrocytes	4,480,000 per c.mm.
Hæmoglobin	78 per cent.
Colour index	0.86 per cent.
Leucocytes	7,050 per c.mm.

Differential count:—

Polymorpho-nuclear neutrophile cells	50 p.c.
Polymorpho-nuclear eosinophile cells	5 p.c.
Basophile cells	1 p.c.
Large mononuclear cells	13 p.c.
Lymphocytes	17 p.c.
Transitional cells	11 p.c.

Hæmolysis was beginning at 0.425 per cent. of aqueous solution of sodium chloride, and was marked at 0.5 per cent., which is within normal limits.

Commentary.—The hæmorrhages and blood picture, combined with the absence of heredity and of jaundice lead us to regard this as a case of Banti's disease. The spleen is not very large, nor is the anæmia nearly so severe as it was in Dr. W. A. Vereo's case, but the tendency to dangerous hæmorrhages would lead us to advise removal of the spleen in this case.

Acholuric familial jaundice.

Case VII.—Mrs. J. aet. 36 (seen with Dr. H. H. E. Russell). She complains of attacks of abdominal pain for the last seven years.

Family History.—Her parents were healthy, but she has a brother who has been always anæmic.

Past History.—She has been always "rather delicate." When she was 13 years old she was very ill for four months with what was called "low fever." At 17 years she had "rheumatic fever." Her only child was born when she was 25, and was delivered instrumentally. She has menstruation every 10 days, but not very profuse.

History of present illness: Seven years ago she had severe pain in upper abdomen, and was told that it was due to uterine trouble, for which she was curetted. Six years ago when examined during a similar attack by Dr. Russell, he found that her spleen was enlarged. At this time jaundice was first noticed. Her conjunctivæ have been slightly yellow ever since. Her principal complaint is now of the constant recurrence of almost intolerable pain in the left side of the upper abdomen. The pain extends backwards. Its onset and departure are both sudden. It may last hours or days, and comes at intervals of a week to two or three months. When seen in February, 1914, with Dr. Russell, she was recovering from one of these attacks. She was pale, and her conjunctivæ and skin were slightly yellow. The nervous and respiratory systems were normal. The heart was slightly dilated, and there was a basal hæmic bruit.

The spleen was considerably enlarged. The area of liver dulness was diminished. The urine was not abnormal.

The blood examination gave the following result:

Erythrocytes	3,590,000 per c.mm.
Hæmoglobin	52 per cent.
Colour index	0.65 per cent.
Leucocytes	10,000 per c.mm.

The red cells show anisocytosis and polychromasia. There are megaloblasts and normoblasts present. The white cells give the following differential count:—

Polymorpho-nuclear neutrophile cells	60 p.c.
Polymorpho-nuclear eosinophile cells	3 p.c.
Large mononuclear cells	20 p.c.
Lymphocytes	13 p.c.
Transitional cells	4 p.c.

She was seen again on 28/7/14. Her condition was rather improved. Her skin was less pallid, but the conjunctivæ was still icteric. The physical signs were unchanged. The liver was small, while the spleen extended downwards to the left iliac crest, and inwards nearly to the umbilicus.

The blood examination was as follows:—

Red cells	3,880,000 per c.mm.
Hæmoglobin	72 per cent.
Colour index	1.0 per cent.
Leucocytes	8,000 per c.mm.

The erythrocytes showed anisocytosis, polychromasia and punctate granulation; a very few nucleated red cells were seen, one of which was a megaloblast.

Leucocytes.—Differential count:—

Polymorpho-nuclear neutrophile cells	52 p.c.
Polymorpho-nuclear eosinophile cells	0.5 p.c.
Large mononuclear cells	29 p.c.
Lymphocytes	14.5 p.c.
Transitional cells	3 p.c.

Hæmolysis.—In order to test the fragility of the red cells we put up 10 test tubes, numbered from 1 to 10, and each containing 0.5 c.c. of a solution of NaCl in Aq. dest. The tube numbered 1 contained a solution of 0.65 per cent. strength. The strength then diminished by regular gradations from tube to tube to number 10, which contained 0.35 per cent. Into each a drop of fresh blood was added by a Wright's pipette, and was mixed with the solution by inverting. The tubes were then centrifuged. The blood of the observer was examined as a control at the same time. The patient's blood showed hæmolysis in a solution of strength 0.5 per cent., whilst the control showed hæmolysis at 0.425 per cent.

The blood of the patient's husband was also examined, and found to hæmolyse in the same strength of saline as the observer's. The urine was examined spectroscopically, but no urobilin was detected.

Case VIII.—S.V.J., the son of case VI. He is a pale boy of 11. His father says that he has been always rather delicate. He has had measles and whooping cough, but no severe illness. Two years ago his spleen was found enlarged. His father says the boy is often yellow, both in sclerotics and skin, and looks more so when overtired.

He says he is more easily puffed than other boys. He is intelligent and bright looking. His weight is 4 stone 8 lbs. (dressed). The cranium is rather large in proportion to face. The conjunctivæ are slightly yellowish. The skin is pale and clear, and there is no evidence of rickets. The chest is normal. The liver dulness is increased downwards about 1 inch; the edge is just palpable. The spleen is easily palpable. It extends downwards to the level of the iliac crests and inwards to within 1 inch of the midline. The urine was not examined for urobilin.

A blood examination in February last gave the following result:—

Erythrocytes	4,225,000 per c.mm.
Hæmoglobin	70 per cent.
Colour index	0.75 per cent.
Leucocytes	9,400 per c.mm.

Anisocytosis and polychromasia: A few normoblasts were seen.

Differential count:—

Polymorpho-nuclear neutrophile cells	35 p.c.
Polymorpho-nuclear eosinophile cells	5 p.c.
Large mononuclear cells	9 p.c.
Lymphocytes	49 p.c.
Transitional cells	2 p.c.

On July 25th, 1914, the boy was in the same condition. The blood examination showed:

Erythrocytes	3,775,000 per c.mm.
Hæmoglobin	72 per cent.
Colour index	1.1 per cent.
Leucocytes	8,400 per c.mm.

Film shows anisocytosis and polychromasia of the red cells.

Differential count:—

Polymorpho-nuclear neutrophile cells	41 p.c.
Polymorpho-nuclear eosinophile cells	3 p.c.
Large mononuclear cells	28 p.c.
Lymphocytes	20 p.c.
Myelocytes	1 p.c.

Coagulation time seemed lengthened, for the puncture bled longer than usual.

Hæmolysis began in saline of 0.55 per cent.

Urine: No bile or urobilin could be detected. It was otherwise normal.

Commentary.—We regard these cases as examples of acholuric familial jaundice for the following reasons:—

1. The hereditary transmission.
2. The jaundice without chyluria.
3. The fragility of the erythrocytes.
4. The splenic enlargement.
5. The absence of hæmorrhages.

Unusual features in these cases are the comparatively normal number of leucocytes, the reduction in the relative number of polymorpho-nuclears and the comparatively high colour index. In most recorded cases of acholuric familial jaundice the leucocyte count is rather high, and the colour index low.

Discussion and Summary.

We have dealt shortly with primary splenic enlargement, giving special reference to a case of primary endothelioma of the spleen. Apparently this new-growth of the spleen is different in character from other recorded cases of primary splenic neoplasm. We are of the opinion that this tumour cannot be placed in either of the groups mentioned by Foix and Roemmele. It is not an endothelioma of the Gaucher type, and apparently it is not a sarcoma, although endotheliomata and sarcomata are closely related.

James Ewing, in an article entitled "Endothelioma of Lymph Nodes," shows that extreme grades of endothelial hyperplasia are not infrequently associated with granulomatous conditions of lymphatic glands, and that in some cases it is difficult or impossible to determine whether this overgrowth is simply inflammatory or independent of the irritant and neoplastic. He comes to the conclusion that long continued effects of a granulomatous infection may lead to neoplastic growth of lymphatic endothe-

lium, and that later the granulomatous element may be eliminated and the disease progress as a form of neoplasm. From observations on several cases of primary endothelioma of lymphatic glands in the neck we are inclined to support this contention.

Bearing this in mind one must consider the possibility of primary endotheliomata of the spleen arising in like manner.

As Case I. had apparently had a syphilitic infection the possibility that the splenic new-growth was in some way associated with a specific granulomatous condition of the spleen must not be overlooked.

This view is supported by the observations of Sir Harry Allen, who has shown that endothelioma may arise in a syphilitic granuloma (verbal communication).

The principal point in connexion with the diseases grouped under the heading of splenic anæmia is their accurate diagnosis and differentiation as a guide to therapy. Banti's disease is certainly curable by splenectomy. Acholuric familial jaundice has been cured in certain instances by splenectomy. Probably the result of the operation would depend upon the amount of blood change present. If the red cells are excessively fragile it seems probable that they would be broken down elsewhere than in the spleen. In Gaucher's disease operation is not indicated, since the spleen is only part of the hæmolymph system, the whole of which is affected.

Von Jaksch's disease is not suitably treated by operation. General medical treatment seems to be successful in the majority of these cases.

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Several other works have been consulted, but most of the modern knowledge on the subjects of the paper is contained in the above references.

AN ANALYSIS OF 62 FATAL CASES OF DIPHTHERIA.

By **W. F. Litchfield, M.B. (Syd.),**
Hon. Assistant Royal Alexandra Hospital for Children; Hon. Assistant Pathologist, Royal Prince Alfred Hospital, Sydney.

The purport of this article is to analyse briefly cases of fatal diphtheria occurring at the diphtheria ward of the Royal Alexandra Hospital for Children, from February, 1912, to November, 1913.

Altogether there were 62 deaths. I have classified them as follows:—

Cases of malignant diphtheria	31
Cases of laryngeal diphtheria	26
Cases of laryngeal and severe pharyngeal diphtheria	3
Case of laryngeal and malignant diphtheria	1
Case of pharyngeal diphtheria	1

By malignant diphtheria is meant that form in which there is extensive formation of false membranes in the throat, œdema of the palate, and swelling of the glands and tissues of the neck, a foul breath and perhaps a nasal discharge.

Laryngeal diphtheria means diphtheria of the larynx, with or without extension to the bronchial tubes.

Pharyngeal diphtheria means diphtheria of the tonsils, fauces and pharynx without the œdema and foul breath that characterize malignant diphtheria.

It will be noticed that there was only one death from ordinary pharyngeal diphtheria, from which we may conclude that with our present methods of treatment this form of the disease usually recovers. The case in question was a girl aged 3 years, who had been ill for some days, and had patches of membrane on both tonsils, and some swelling on the left side of the neck; there was no fœtor of the breath and no nasal discharge. Seventy thousand units of anti-toxin was given subcutaneously. The child died three days after admission from heart failure, preceded by vomiting. Next it should be noted that though there were 32 cases of malignant diphtheria, in only one of these, a boy aged 2½ years, was the larynx involved. Further, although there were 30 cases of laryngeal diphtheria, only four of these, including the cases just mentioned, had severe involvement of the pharynx. These facts accord with the observations made by myself and others that the severe toxic forms of the disease seldom invade the air passages. In most of the cases of laryngeal diphtheria some membrane, usually small clean-looking patches, were present on the tonsils on admission, but in three cases no membrane could be detected in the throat. This serves to illustrate an important point in diagnosis. Non-diphtheritic croup, or catarrhal laryngitis is very common at certain seasons of the year, and in the absence of visible membrane it is often difficult to distinguish true diphtheritic croup from it. Usually there is some membrane on the tonsils to give one a positive clue. I have, however, seen many cases of laryngeal diphtheria, both early and comparatively late ones, in which no membrane could be detected in the throat. The lesson is that when there is a reasonable doubt to administer anti-toxin at once, and subsequently have a bacteriological examination made.

The sexes of the children were as follows:—

	Males.	Females.
Cases of malignant diphtheria	11	20
Cases of laryngeal diphtheria	15	11
Cases of laryngeal and severe pharyngeal diphtheria	3	1
Cases of pharyngeal diphtheria	—	1
Total cases	29	33

The ages were as follows:—

	Years,	Cases.
Cases of malignant diphtheria	1 to 3	4
	3 to 6	13
	6 & over	14

Cases of laryngeal diphtheria.	Under 1	2
	1 to 2	9
	2 to 3	7
	3 to 4	4
	4 to 5	1
	5 to 6	3
Cases of laryngeal and severe pharyngeal diphtheria	Under 1	2
	Under 2	1
	Under 3	2
Cases of pharyngeal diphtheria	2½	1

From which it appears that laryngeal diphtheria chiefly affects children under 4 years, and severe toxic diphtheria children over 4 years.

The durations of the illnesses before admission, as near as could be judged from the history, was as follows:—

	Malignant Diphtheria.	Laryngeal Diphtheria.
1 day	2	2
2 days	7	4
3 days	5	4
4 days	5	5
5 days	4	0
6 days	0	2
7 days	3	5
Uncertain	5	4

This table is a very important one, since it shows that diphtheria may be fatal, even in cases that come under observation quite early.

The causes of death.—I have classified the causes of death in the malignant cases as follows:—

	Cases.
Post diphtheritic heart failure	25
Diphtheritic heart failure and pneumonia	1
Diphtheritic heart failure and scarlet fever	1
Heart failure from toxæmia	2
Heart failure accelerated by the effects of intravenous injection of anti-toxin	2

A distinction has been drawn between deaths due to post diphtheritic heart failure and toxæmia, because in the latter case the poison had not been neutralized, and was still acting on the tissues. In the latter cases the pulse was continuously rapid, while in the former cases the pulse usually slowed down at the onset of heart failure. Of the deaths here recorded as due to toxæmia, one of a child aged 5 years, occurred a few minutes after admission, and the other, of a child aged 7½ years, 12 hours later. The pulse rate in each was rapid, ranging between 140 to 150 beats per minute. One case developed pneumonia on the tenth day, and died two days later. One case developed scarlet fever on the fourth day, and died two days later. In two cases the immediate cause of death appeared to be the intravenous injection of anti-toxin. Frequently after an intravenous injection of anti-toxin the children have developed rigors and high temperatures. The two cases referred to died within an hour after the injections with rigors, high temperatures and convulsions. The remaining 25 cases died of post diphtheritic heart failure, and I propose to make a few remarks concerning them. Death occurred on the second day after admission in two cases, on the third day in two, on the fourth day in four, on the fifth day in four, on the sixth day in two, on the seventh day in one, on the eighth day in three, on the tenth day in one, on the thirteenth day in two, on the fourteenth day in one, and on the thirty-sixth day in one.

One of the first and commonest symptoms of impending heart failure was vomiting. In some cases it came on early, and lasted several days, in others the vomiting occurred only occasionally, and in others only a few hours before death. It should be mentioned that, though vomiting is always a serious symptom after diphtheria, it does not invariably imply a fatal issue, as several of our cases have recovered after it. Hæmorrhage, sub-contaneous or from the mucous membranes, was another symptom of grave import. I do not remember ever having seen a case of diththeria recover that exhibited this symptom. It has always occurred early, that is, within four days of admission. In some cases it persisted right up to the time of death. In other cases it cleared up some days before the fatal issue. A sudden drop in the pulse rate frequently ushered in the cardiac failure. For instance, in a girl aged six years the pulse ranged from 110 to 120 per minute for four days, and then dropped to 50, at the same time showing some irregularity in force and rhythm. Subsequently the pulse ranged from 50 to 80 for two days, when it suddenly shot up to 200, and the child died one hour later. In most of the cases the slowing of the pulse has given away to rapidity just before death. In one case, however, that of a girl aged seven years, the pulse fell to 50 on the sixth day, and remained slow to the end, which occurred two days later. In some cases the pulse has remained rapid throughout, becoming soft and irregular towards the end.

The temperature in these cases was no guide to the severity of the disease. In the majority, on admission the temperature was between 99° and 100° F. After the administration of anti-toxin, in the uncomplicated cases the temperature rose one or two points, oscilated for a day or two, and then became normal.

Great restlessness was a frequent symptom in heart failure, usually accompanied by pallor and cold extremities. Morphia had frequently to be given to relieve the distress of this symptom.

Pain of an agonizing character in the upper part of the belly was noted frequently in the older children. One case had severe anginal pains in the arms. In connexion with this, I might mention the case of a boy aged 14 years, who recovered after developing rather severe anginal pains in the left arm on the fourteenth day, after a severe pharyngeal diphtheria. He had several distinct attacks; the first lasted two hours, the next attack occurred some hours later, and was relieved by morphia. Subsequently for two days he had several lesser attacks, and, finally, after being kept in bed for six weeks, made a complete recovery. Convulsions occurred towards the end in two cases. A peculiar softness

of the skin, whereby it lost its normal toughness and resistance, was noted in some cases. Muscular relaxation of a marked character was noted in some cases, more especially in those admitted in a highly poisoned state. Albumin was always present in the urine, sometimes in large amounts. Paralysis of the palate and loss of knee jerk was observed in some of the protracted cases.

The causes of death in the laryngeal cases, including those associated with severe pharyngeal diphtheria, I have classified as follows:—

	Cases.
From asphyxia, due to blocking of the air passages	11
From asphyxia, associated with pneumonia	4
From pneumonia	4
From heart failure	2
From interstitial emphysema	1
From septicæmia	1
From measles as a complication	2
From accidents incidental to treatment	4

Death occurred early in most cases, within three days in 20 cases, and over ten days in only three cases. All the cases but two were intubated soon after admission. In several of these, owing to continued distress, tracheotomy was subsequently performed. Three children died on the operating table, while tracheotomy was being performed, and one child died after coughing up the tube, and before it could be re-inserted. In all cases before death the pulse became rapid and the temperature high, and several had convulsions.

The case described as pharyngeal diphtheria died of heart failure, as previously mentioned.

The doses of anti-toxin given were large; in malignant diththeria from 50,000 to 140,000 units, in laryngeal diphtheria from 10,000 to 50,000 units. The initial dose was always large, and the whole amount given on the first two days of treatment. In the malignant cases portion of the dose, from 20,000 to 40,000 units was given intravenously. As already stated, rigors were common after the intravenous injection, and in two cases the reaction caused by them appeared to be the immediate cause of death. Otherwise no harm has resulted from the use of anti-toxin, however large the dose. In severe cases of diphtheria it is recognised that large doses of anti-toxin are necessary, but it is difficult to determine the limit of the dose necessary. One of our objects has been to find out if large doses would save the severe cases, and what limit should be put on the dose. The first effect of anti-toxin in malignant diphtheria has been to increase the local reaction in the throat, thus in most cases there has been an increase of swelling in the neck and fauces, and the false membrane has become more widespread and thicker. Soon, however, the swelling has begun to subside, the membrane to be more defined and the patient to feel better. By the fifth day, when the patient has lived so long the local condition has completely cleared up. In every case there was evidence that the anti-toxin was sufficient to arrest the diphtheria, and the heart failure and paralysis must be attributed to damage done before its administration. To account for heart failure and paralysis coming on some time after the diphtheritic process has been arrested, my theory already enunciated is that the damaged nerves and muscles degenerate under stress of function. There is no evidence in support of the idea that residual toxin is left in the tissue silently to work its mischief there. From experience gained in these cases and others that have recovered I have concluded that in no case is it useful to give more than 60,000 units of anti-toxin: in laryngeal diphtheria probably 20,000 units is near the extreme dose necessary.

The objects of this investigation have been to discover the causes of death in diphtheria under modern methods of treatment, and to learn what is necessary for a further reduction in mortality. The conclusions arrived at are: A certain number of deaths occur after diphtheria in spite of prompt and energetic treatment with anti-toxin. The deaths occur chiefly after severe toxic diphtheria and laryngeal diphtheria. The cause of death in the former is mainly post diphtheritic heart failure and in the latter asphyxia and pneumonia. A certain number of deaths occur due to accidents in the course of treatment, attributable sometimes, but not always, to lack of technical knowledge and skill. Anti-toxin is a specific remedy, and should cure almost all cases if given early enough. Some of the severe cases, however, are extremely sudden in their onset, and rapid in their course, and are apt to be overlooked by the parents and even by the physician until the heart is so damaged or the respiratory tract so invaded that anti-toxin is of no avail. The remedy lies in a better knowledge of the early symptoms of the disease, and the prompt administration of anti-toxin on the first reasonable suspicion of this disease.

Some of the above cases were under the charge of Dr. Plomley and I am indebted to him for permission to refer to them.

Reports of Cases.

CYST OF THE PITUITARY GLAND.

By **W. N. Robertson, M.B., C.M. (Ed.)**
Hon. Surgeon for Diseases of Ear, Nose and Throat, Hospital for Sick Children, and Mater Misericordiæ Hospital, Brisbane,
and **E. D. Ahern, M.B., B.S. (Melb.)**
Hon. Asst. Surgeon, Mater Misericordiæ Hospital, Brisbane.

Clinical History by Dr. Ahern.

Disease of the pituitary gland overlaps the field of so many specialists as well as the general practitioner, that this case is reported in the hope that it may interest a large number of the members of the profession, and also add to the case literature of this rare condition.

W.W., aet 28 years, presented himself at the out-patient department early in March, 1914, complaining of severe and persistent headaches, located mainly behind the eyes, and radiating all over the head. There had never been any vomiting in connexion with the headaches, even during acute exacerbations, which occurred on the average three times weekly. On a few occasions he had felt some weakness in the legs when the headaches were severe. He had never suffered from giddiness, nor had he ever fallen. His gait had never been staggery. At times he would see double, and he stated that his eyes "played tricks" with him. Light was irritating to his eyes, and almost painful. He had been troubled with phosphorescent spots before the eyes.

Past History.—When three years old he had "slight infantile paralysis." In 1910 he had scarlet fever in England, and was laid up for six weeks. Shortly afterwards he had a "relapse," which was diagnosed at the time as "meningitis" by the doctor in charge. On recovery from this second illness, which lasted about two months, he began, for the first time, to suffer from headaches similar to those troubling him at present. The headaches disappeared in three or four months, and he remained free from them (except for a certain heaviness—vaguely expressed) until the present time. On three occasions he has suffered from concussion of the brain: once at the age of 18 years, and again about 18 months ago. These concussions were of moderate severity on each occasion, and were accompanied by about half-an-hour's unconsciousness. The family history contains nothing of interest.

Examination.—One was at once struck by the appearance of the patient: he is of stunted growth, being only five feet four inches in height and weighing eleven stone seven pounds. The patient holds his head somewhat cast down, as if to keep the light from his eyes. His age is twenty-eight years, but he looks more like a youth of seventeen. He has no growth of hair on the jaw or upper lip, a shave once a month being sufficient to keep the down under control. There is no hair in the axilla, and the pubic growth, though luxuriant, is of the female type of distribution. The skin is fair and of fine texture, the hair follicles being but slightly marked. The sub-cutaneous fat is well marked everywhere, and is especially so in the cervico-dorsal region, and around the mammæ. His heavy-breasted and well-covered appearance, combined with a narrow pelvis and genu valgun, tends to approach the female build. Heart, lungs and abdomen proved, on examination, to be normal. The examination of the nervous system revealed nothing abnormal. His sexual history revealed nothing of interest. The serum was subjected to a Wassermann test, and yielded a negative result. The blood pressure was 120. We are indebted to the Hon. Dr. W. Taylor, Hon. Ophthalmic Surgeon, for a report, as follows: "Optic atrophy on both sides. Marked limitation of visual acuity. Midline bi-temporal hemianopsia." An X-ray photograph revealed no noticeable enlargement of the sella turcica or thickening of the clenoid processes. With these data in hand, a tumour of the pituitary gland was diagnosed, and operative relief suggested and accepted.

After concultation with Dr. W. N. Robertson, Hon. Rhinologist, we decided on the nasal route of access to the sella turcica.

Account of the Surgical Treatment by Dr. Robertson.

I am much indebted to Dr. Ahern for the opportunity of seeing this patient and for the complete manner in which he marshalled the latest literature on the subject for my information.

Nasal Condition.—All four turbinals were markedly enlarged and congested, and it was obvious that if the pituitary was to be approached by the nasal route an extensive cleaning out of the nose would be necessary. After much discussion, we decided that this route should be chosen, and as so great removal of turbinal tissue was necessary, we decided to do a tracheotomy in case of bleeding. Twenty minutes before operation, the nose was packed with 10 per cent. cocaine solution in 1-4000 adrenalin. Dr. Ahern did a preliminary tracheotomy. I then resected part of both inferior turbinals and practically the whole of both middle turbinals. A complete submucous resection of the septum was then carried out, right back to the sphenoidal sinuses. The muco-periosteum was then continually reflected from the antero-inferior surfaces of the sphenoidal sinuses, which gave an open view over an area about an inch in diameter. The two septal flaps were then pushed over to the right side, the muco-periosteum incised as far to the left as possible, and the sphenoidal sinuses exposed to view through the left naris. On opening into the sphenoidal sinus, I found the left was the larger laterally, although it was not deep. Owing to the ischæmia caused by the adrenalin, it was an easy matter to punch away the whole antero-inferior wall of the sinus, and also the floor of the sella turcica. The opening was abo t five-eighths (⅝) of an inch wide. Into this opening presented a pearly cyst about the size of a hazel nut. There was no evidence of pulsation. About a drachm-and-a-half of glairy fluid escaped on opening the cyst. The cavity was curetted gently, and as much as possible of the sac wall removed with forceps, the cavity swabbed with iodine and lightly packed with gauze. The lower part of the nose was packed separately, to lessen the hæmorrahage from the cut turbinates.

Recovery was uneventful. The agonising headache had disappeared by the time the patient recovered from the anæsthetic. The nose healed rapidly, being cleansed with weak peroxide and alkaline lotion. A small adhesion formed on the right side, between the cut inferior turbinal and the septum, which was separated with a snip of the scissors, and now he shows an excellent nose. Pulsation can be detected in the region of the sphenoidal cell on the left.

Remarks.—What struck me was the ease of access when the sella turcica is approached in this way. The space secured is ample for the necessary manipulation, the view is excellent, and the complete absence of bleeding makes quick work easy. The whole operation, including the tracheotomy, was under fifty minutes. In addition, should the cyst recur, it would grow downwards through the opening provided for it, and it is under the eye and readily accessible, without trouble.

One word more. In considering this case, I am convinced that this operation is one for a rhinologist who is daily familiar with the topography of the part, and who is constantly working with a reflected light.

Subsequent history by Dr. Ahern.

Five months have elapsed since the operation, and there has been no sign of recurrence of the cyst, which could be quite easily seen, and, if necessary, asperated through the nose.

The patient has been having pituitary extract for the last two months, and now weighs ten stone, and feels bright and energetic. He is making a very good living as a music teacher and orchestral player, in spite of his defective vision.

There is one interesting part of his after history which may be explained by the corrolated action of the pituitary and sexual glands. That is that since the operation, indeed, three or four days following the operation, this patient has been troubled every night with noctural emissions, which previously had never occured to him.

In the preparation of these notes I wish to express my gratitude to Dr. Neil and Dr. Hansen, of the Mater Misericordiæ Resident Staff.

The condition of the eyes has not improved as much as was hoped. Dr. Taylor's report following the operation is appended.

Ophthalmic Report.

The field of vision charts taken by perimeter show temporal hemianopsia, caused by a lesion of the optic chiasm, no doubt the result of pressure exercised by the tumour or cyst of the pituitary gland. There is 5° of external stabismus when the left eye is fixed, and 2° when the left eye is fixed. Horizontal mystagmus is marked at times. There is lessened mobility of the pupil. The discs are pale and optic atrophy is present.

The vision is as follows:

L. $\frac{3}{50}$ $\bar{c}$ +4·5 cyl. axis. 50° D $= \frac{14}{50}$

Not. Snellan 4.

R. $\frac{15}{15}$ $\bar{c}$ +5·0 cyl. axis. 70° D $= \frac{1}{-}$

Snellan 0·8 at 6 in.

Public Health.

INFECTIVE DISEASES IN AUCKLAND.

The District Health Officer for Auckland has issued his report dealing with the infective diseases in the city, suburbs and country districts for the month of September. Notifications were received of 15 cases of scarlet fever (6 in the city, 3 in the suburbs, and 6 in the country districts); 44 cases of diphtheria (9 in the city, 10 in the suburbs, and 25 in the country); 21 case of tuberculosis (10 in the city, 4 in the suburbs, and 7 in the country); 46 cases of enteric fever (2 in the suburbs, and 44 in the country districts); 8 cases of blood-poisoning (2 in the city, 5 in the suburbs, and 1 in the country); 70 cases of chickenpox (23 in the city, 28 in the suburbs, and 19 in the country districts).

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ended October 3, 1914:—

Notifiable Diseases.	No. of Cases Reported.
Typhoid Fever	11
Diphtheria	68
Varicella	22
Phthisis	8
Erysipelas	1
Cerebro-Spinal Meningitis	1
Scarlet Fever	4
Puerperal Fever	1
Infantile Paralysis	2
Total	118

SMALLPOX IN SYDNEY.

The number of smallpox cases reported to the Department of Public Health, New South Wales, during the week ended October 11, 1914, were:—

City of Sydney and Metropolitan District	15
Country—	
Yass District	7
Newcastle	1
Quirindi	1
Total	24

Personal.

Dr. I. Manly Barrow has removed from Burrenjuck to Duke Street, Kensington, New South Wales.

Dr. W. B. Walton has succeeded to Dr. Clatworthy's practice at Homebush, New South Wales.

Dr. J. M. Alcorn has succeeded to Dr. Tennent's practice at Forbes, New South Wales.

Dr. Bobart has removed to Ranger's Road, Mosman, New South Wales.

We learn that Dr. Otto Neustätter, the Editor of the "Gesundheitslehrer," who was in Edinburgh at the time of the outbreak of hostilities, is now a prisoner on parole in London. Dr. Neustätter delivered a lecture at the annual meeting of the Royal Institute of Public Health late in July, and then proceeded to make a tour of inspection of the various hygiene institutions of Great Britain for the purpose of collecting information for the Permanent Museum of Hygiene in Dresden. In spite of the warning of his friends, he remained in England until he was arrested. He is now staying with Professor Robertson (London University), and is not allowed to wander outside a radius of five miles. Dr. Neustätter married a Melbourne lady (Miss Lindsey).

Dr. W. S. Robertson, late house surgeon to the Rotorua Sanatorium, New Zealand, has left to take up private practice at Hastings, New Zealand.

At the annual meeting of the Royal Society of South Australia, held on October 8, Dr. J. C. Verco was elected President for the twelfth year in succession.

Dr. Powell, of Kupunda, is leaving to take over his brother's practice at Adelaide, South Australia, during the latter's absence at the front.

A number of gentlemen representing the town of Victor Harbour, South Australia, gathered at the Grosvenor Hotel to bid farewell to Dr. Pitcher, who is leaving the district.

Dr. Pitcher intends to go to the war with the second South Australian contingent.

Lieut-Col. Dr. Ramsay Smith, who has been appointed in command of the central hospital being formed in Queensland, for service abroad, left Adelaide by the Melbourne express on October 8, 1914.

Dr. Barton, resident medical officer at the Goulburn Hospital, New South Wales, has been appointed medical officer at the Children's Hospital, Sydney. Dr. Barton will be succeeded by Dr. Murphy, of Goodooga, New South Wales.

University Intelligence.

SYDNEY UNIVERSITY.

At a meeting of the Senate of the Sydney University, held on October 12, 1914, it was resolved, on the recommendation of the Dean of the Faculty of Medicine, that "A special final examination in medicine be held on November 30, 1914, and following days, for the benefit of the fifth year students desirous of volunteering for active military service."

The following have been re-elected lecturers:—Dr. J. Foreman (Gynaecology); Dr. T. Storie Dixson (Materia Medica and Therapeutics); Dr. F. Antill Pockley (Ophthalmology); Dr. Andrew Davidson (Psychological Medicine), inter alia. The lectureship on surgery has fallen vacant by the resignation of Sir Alexander MacCormick. Advertisements will be issued for the post.

Mr. H. S. Wardlow, B.Sc., was appointed temporary junior demonstrator in physiology during the absence of Dr. C. Shellshear.

A report was received from the conjoint committee appointed to make recommendations in regard to the appointment of clinical lecturers and tutors at the Sydney Hospital, recommending the following appointments:—Medicine: Clinical lecturer, Dr. Sydney Jamieson; clinical tutor, Dr. Hamilton Marshall. Surgery: Clinical lecturer, Dr. H. L. Maitland; clinical tutor, Dr. H. S. Stacy. The report was adopted.

Medical Ethics.

Parramatta enquires whether any ethical objection could be raised if he continued to attend a transferred Lodge patient, as a private patient, after he had disposed of his Lodge appointment. In relinquishing a Lodge appointment for a consideration, the vendor implicitly undertakes to place his successor, as far as lies in his power, in as favourable a position as he himself had been in. He is not justified in doing anything which might lead to a reduction of the number of names on the list of transferred patients. In addition, the vendor must recognize the fact that in all contract practice work the relations between doctor and patient usually lead to the employment of the former by the latter for attendances not included in the contract. It is, therefore, doubtful whether the position would be favourable to the successor if the vendor continued to treat a transferred patient as a private patient under the understanding that the patient's name remained on the successor's list.

In any case, the vendor would be well advised if he obtained the successor's assent before he made any arrangements with the transferred patient. In the event of any objection being raised by the successor, the proposed action should not be carried out.

Medical Journal of Australia.

SATURDAY, OCTOBER 17, 1914.

The Subsidized Bush Doctor.

The Minister of Public Health of New South Wales has issued his first interim report, dealing with the various items of his health campaign. The details included in the report are necessarily scanty, firstly because of the brief period during which he has been in office, and, secondly, because, just as the integral parts of the scheme were being developed, a check was placed in the spending of his Department, owing to the exigencies of war. The scheme, as forecasted, represents a comprehensive attempt to safeguard the health of the people on rational lines. It is, of course, quite impossible to stamp out disease by legislation, but every hygienist will admit that a well-organized endeavour to carry into effect those prophylactic measures which scientific research has revealed, if supported by adequate funds and rendered efficient by the weight of the mandatory authority of a Governmental department, can effect a great deal in this direction. The progress of hygiene and the enforcement of rational sanitary and preventive measures have been followed by so remarkable a reduction in the incidence of and mortality from tuberculosis, enteric fever and other infective processes in the past, that no further evidence is needed to establish this point. Medical men are too prone to regard with suspicion and preconceived opposition, schemes evolved by a Governmental department; in the interests of the public weal, criticism should be postponed until details are at hand, and until the rationale of the proposed measures can be accurately considered and weighed.

Mr. Flowers' scheme begins at the bottom, and works upwards. The first item deals with the improvement of the health of the expectant mother and her unborn child. The next step is the control of new-born infants and of children between infancy and the school age. The following link in the chain is missing, not because the Minister of Health does not regard the period of school life as an important one from a hygienic point of view, but because the task of looking after the health of school children is vested in the Department of Education. Quite recently, the Minister of Education has issued a report dealing with the incidence of infective disease in these children, and its effect on school attendance and on the health of the little ones. This subject deserves separate treatment.

In the following period of life, the classification of hygienic endeavour cannot be a chronigical one, but must follow the divisions and sub-divisions of causation and etiological factors. The scheme, therefore, includes items dealing with the general amelioration of the disastrous effects of tuberculosis, of venereal disease, of enteric fever, of diphtheria, small-pox and other infective diseases, and of mental defects. Added to these matters are questions associated with dental defects, with efficient nursing in hospitals and in the homes of the people, with the control of abattoirs, and with the establishment of medical research. Had the conditions remained undisturbed by a stupendous calamity, the like of which has probably never before overtaken the whole of the civilized world, it is highly probable that the greater number of the items of the scheme would have been developed simultaneously and rapidly. As it is, there is but little chance of a material advance being made in the immediate future, save in regard to a few of the links of the chain of health policy. The working of the infant clinics continues in an unassuming but useful manner, and, inasmuch as this department embraces the giving of advice to pregnant women and mothers with young babies, the results should be as good as those obtained in Paris, London and elsewhere. If these institutions do nothing else than teach women that, in the vast majority of cases, they can and should nurse their own babies, and that fresh air and cleanliness are the best safeguards of good health and prosperity, their existence would be fully justified.

It is probable that the tuberculosis dispensary scheme will not be interrupted, even if the rate of advance is somewhat slowed. On the other hand, the venereal clinic has been closed for the present, and whether it is to be opened again under the same conditions, or whether a modification will be found advisable, remains to be seen.

Two other matters are so urgent that, in spite of shortage of money, some steps will have to be taken

to meet the difficulties which arise. The first of these is the provision of hospital accommodation for the sick, and the second is the provision of medical and nursing care for the inhabitants in districts which are out of reach of the medical or nursing profession at present. The hospital question will claim our attention at a future date, and need not be analysed now.

In regard to the needs of the bush districts, where the population is too sparce to entice a doctor to set up in practice, a problem of some difficulty has to be met. The essence of the thing is that, if every citizen has a right to benefit by modern treatment, some special provision would have to be made to bring the services of a doctor and a nurse within the reach of these people. In some districts, the village or small town is 50 miles and more distant from the nearest doctor. A special attendance to these centres would entail a fee quite out of the reach of the majority of the inhabitants. It is the intention of the Minister of Public Health to place a well-trained nurse in each of these districts. In some places the local community will defray the necessary expense, which is estimated at about £150 per annum. In other districts, less will be guaranteed, or there will be no local contribution. It is estimated that a Government subsidy of £80 per annum per district will meet the needs of the situation in this respect. One difficulty can be anticipated, and this is a real one. Others may follow, but they are not evident at present. If the maternity work is to be undertaken by the nurse-midwife, she must be well trained and thoroughly efficient. A well-trained nurse holding a midwifery certificate is certainly capable of conducting a normal case of labour, and of determining when an abnormality is present. If she has the machinery for sending for a medical practitioner when necessary, and if provision be made to secure for him a fee for his attendance, the arrangements should work well. But it appears that a sufficient supply of skilled, trained nurses with mid-wifery certificates may not be available, and a danger will arise, if a half trained woman is employed.

In the out-back districts, other eventualities than child-birth have to be provided for. There is sickness, and there is accident. Even if the incidence of sickness is very low in these healthy districts, there is no guarantee that epidemics and other illnesses may not arise; and accidents will certainly occur from time to time in these agricultural areas. The Government found that the establishment of hospitals in each small centre would be too expensive, and, even if instituted, the question of staffing would create insuperable obstacles. In certain areas, an occasional visit of a doctor would, it was felt, meet the case, while in other districts, where the population approached a thousand souls, a medical practitioner might well be established. In none of these areas can the population support a doctor. The Minister of Public Health therefore devised the plan of arranging with a medical practitioner to make periodic visits to these out-lying hamlets, and to be prepared to go there on emergency calls, or else to take up his residence altogether in these centres. In order that the liability of the Government might be limited to a comparatively small amount, and, further, for the purpose of stimulating the people to retain their independence, he agreed to pay a subsidy under very definite conditions. The local residents, committee or Lodge are to guarantee a certain sum for the doctor. If his private fees exceed this amount, no call will be made on the local guarantors. The Government further guarantee the doctor an income of £600. The working of the arrangement can be made clear by an example. At the Kangaroo Valley, the residents have offered a guarantee of £300 per annum for a doctor. If a practitioner be appointed, he will undertake to attend everyone in the township. He charges those who can pay adequate fees, and the local committee will see that he is paid. At the end of the first year he may receive £250. The local committee will be called upon to contribute £50, and the Department of Public Health will pay £300, to make up the £600. After a few years, let us suppose that the district grows, and that he gets £350 in private fees. The Government still pays his £300; but when his total income exceeds £400, the Government contribution is reduced, £100 at a time, so that when he reaches £600, it will be stopped altogether. At Lightning Ridge, the residents are not in a position to guarantee anything at present, although they were previously prepared to do something. It has

PLATES ILLUSTRATING DR. C. DE CRESPIGNY AND DR. L. B. BULL'S ARTICLE.

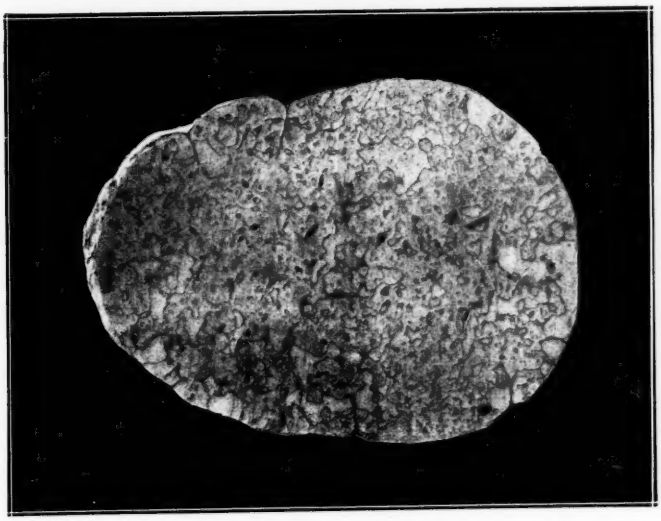

FIG. I.

Section through spleen. The peculiar "marbling" due to the irregular necrosis of the growth may be plainly seen. There is no original splenic tissue; the whole of the organ is invaded and replaced by the tumour. ($\times \frac{1}{2}$).

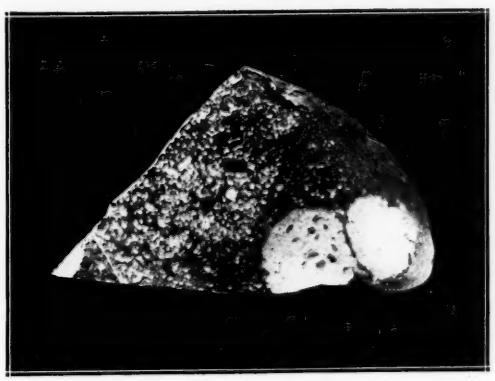

FIG. II.

Section through lower anterior margin of liver. Two large secondary nodules are visable as well as the diffuse inter-lobular infiltration by the neoplasm. ($\times$ 3/5ths).

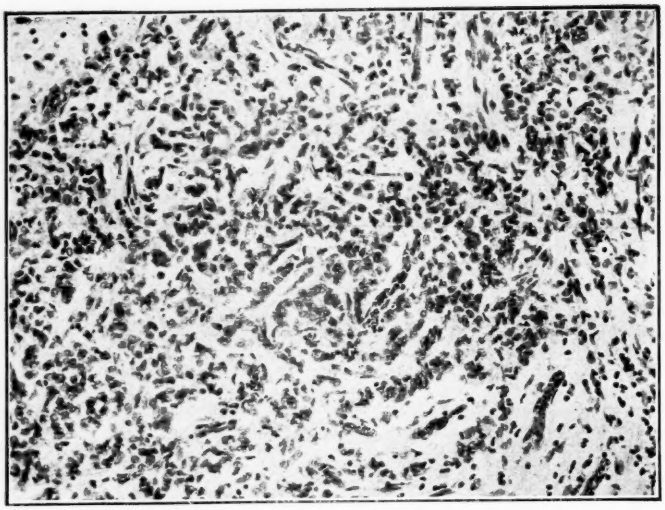

FIG. III.

Microscopic section of splenic new growth showing the close association of the tumour cells with the capillary blood vessels.
(High power micro-photograph).

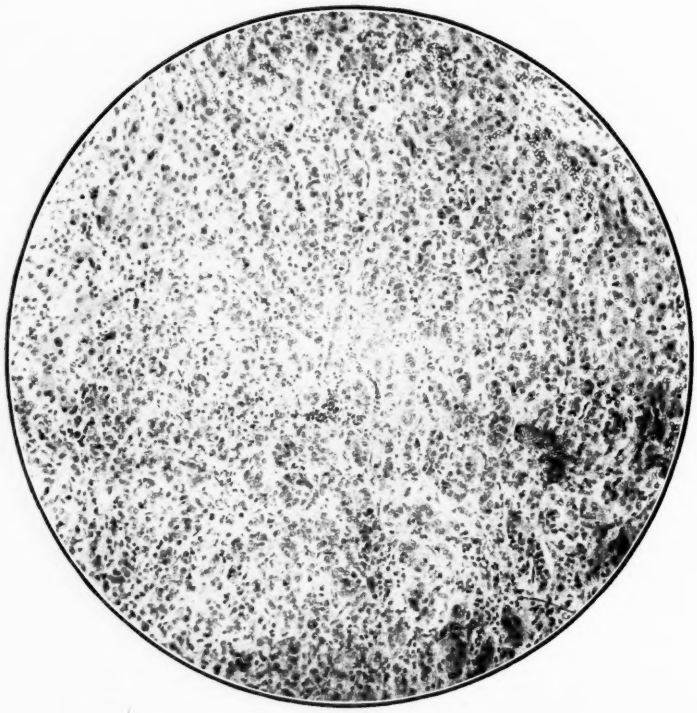

FIG. IV.

Microscopic section of metastasis in liver showing the alveolar arrangement of the tumour cells.
(Low power micro-photograph.)

been estimated that the needs of this particular case would be met if the doctor visited this area once a month. Whether this is sufficient or not must be carefully investigated. The plan under consideration is to appoint a medical practitioner in practice in a neighbouring town, and to guarantee him £150 for the visit made once a month. A special fee will be paid, if necessary, by the Government for an urgent call, the urgency to be determined by the nurse and not by the patient. In this instance, as in the majority of others, no outside practitioner will be introduced into the district, but arrangements will be made with a man in the neighbourhood to supply the wants of the district. In Gulargambone, the local residents have offered a guarantee of £100, while the local lodge is prepared to guarantee a further £100 toward the income of a doctor. After investigation, it will be determined how often the practitioner will be required to visit the district, and, on that basis, a fair remuneration will be fixed. The Government will guarantee that the practitioner is paid not less than this amount, and the local residents will see that he gets the maximum from the patients as private or lodge fees. In Quambone, the Quambone Medical Movement Committee is prepared to guarantee £200 per annum for three years, and the Government will do the rest. Similar arrangements are being made in Eugowra.

From these few details, it will be seen that it cannot be the intention of the Minister of Public Health to institute a sort of local State Medical Service. The fact that, wherever it be possible, the services of a man in the next town will be secured, excludes such an object. Furthermore, if practitioners are subsidized to some extent in 30 different bush districts, and the provisions are such that the sum guaranteed diminishes as the capability of the residents in each place to support a doctor increases, it is evident that the plan is merely a temporary expedient and not an experiment in the nationalization of the profession. Again, it must be remembered that the arrangements suggested are essentially an alternative for the establishment of a hospital, and, in this connexion, the employment of individual medical men at a salary would not be objected to.

The whole problem is not solved by these elementary expedients. In places with a population of 250 persons or less, situated at a considerable distance from a town with a medical man, special arrangements would be required to meet the needs of the people. The visiting principle might not be applicable, and the number of persons might be insufficient to justify an all-time man being employed. Other means will have to be found to fit such cases, as they are brought to the notice of the Minister of Public Health. But even when the conditions do not call for any special arrangments, slight modifications will be required to suit the peculiar circumstances obtaining.

The medical profession in New South Wales will learn in the course of a short time that this movement of subsidizing medical men in out-back districts is an advance in the right direction in the public health programme, and that the profession will gain as well as the public, if the members of the former co-operate with those in authority and lend their support to the scheme. A number of practitioners have already offered their services to the Minister for these subsidized posts; others may follow suit. Few, however, will be chosen, since the policy is rather to utilize local men than to import fresh blood. We have examined the scheme with care, and can recommend it to the favourable consideration of the whole profession.

SECRET REMEDIES.

The findings and recommendations of the Select Committee on Patent Medicines, which was appointed by the British Treasury in May of 1912, has been issued (see "British Medical Journal," August 29, 1914, pp. 404-5). The Committee applied itself to the conditions obtaining in Great Britain and Ireland, and the defects discovered and remedies suggested have direct application to the home country. An examination of the findings, however, as well as a perusal of the evidence, will reveal that the evils which led to the appointment of this committee and which have been discussed by the witnesses during a period of two years, are not peculiar to Great Britain, but exist in Australia in any equally dangerous form. In view of this fact, it may be well

to consider whether the remedies suggested by the Select Committee would be applicable to the conditions of Australian life. Reforms could no doubt be carried into effect more easily in the Commonwealth than in the Mother Country, firstly because the older machinery lends itself less well to revolutionary changes, secondly because each State of the Commonwealth is already provided with a Ministry of Health, and lastly because vested interests are not so numerous nor so deeply rooted.

The Committee record that patent and proprietary remedies and appliances and medicated wines are either (a) genuine scientific preparations, (b) unobjectionable remedies for simple ailments, or (c) secret remedies for which grossly exaggerated claims of efficacy are made, which cause injury by leading persons to delay in securing medical treatment, which contain in disguise large proportions of alcohol, which are sold for improper purposes, which are offered for sale as cures for incurable diseases, or which are essentially and deliberately fraudulent. That the last named class of secret remedies, with one or other of these attributes, is considerably larger than the other two classes, is evidenced by the regulations controlling the insertion of advertisements of proprietary remedies in the "British Medical Journal." No remedy which is advertised in the lay press may be advertised in the advertisement pages of the "British Medical Journal." This wise restriction was adopted by the organs of the British Association of the Medical Press as a uniform guidance for the managers of the various journals, in an endeavour to keep the advertisement columns as clean as possible. In the case of Australia, since the "Medical Journal of Australia" is the only organ of the medical profession, another expedient has been introduced. Each advertisement is examined, and judged on its merits. A secret remedy will not be accepted, while an advertisement of a proprietary article will be inserted if the evidence of the bona-fides of the manufacturers is satisfactory, and if the composition of the remedy is made known, either privately to the manager, or in some other way. It must, however, be clearly understood that the "Medical Journal of Australia" does not recommend the articles advertised in its pages, but that care is exercised in the control of advertisements offered for insertion, in order that exaggerated claims of therapeutic action are not made, and that fraudulent preparations are excluded.

The Select Committee have further found that the existing law is chaotic, and has proved inoperative. The daily and weekly newspapers in the Commonwealth, like the daily and weekly newspapers of other countries, publish advertisements of secret remedies which must be classed under the description given by the Select Committee under (c), namely, "professing to cure diseases incurable by medication; or essentially and deliberately fraudulent." It is in this connexion that the financial problem affects the matter most closely. A newspaper is produced for the purpose of gain. In regard to the letterpress, the material printed is chosen because it is held to be most attractive to the general public. The advertisements are accepted either because they attract the public and increase the sale or because they constitute a "good line." The more impudent the claims made by a vendor of a worthless remedy, the greater is the sale of the remedy; vendors of this class of secret remedy are prepared to pay high prices to newspaper proprietors for the insertion of their fraudulent advertisements. And this is regarded as good business. We can only endorse the opinion of the committee when it states that the want of control of the traffic in secret remedies is "an intolerable state of things." The unfortunate part of the matter is that it is extremely dangerous to attempt a direct exposure of individual cases, because, even in cases known to the whole profession as fraudulent, the proof of essential and deliberate fraud is difficult, if not impossible, to adduce.

Among the more important recommendations will be found the following suggested remedies. The control should be placed in the hands of the Ministry of Health. The exact composition of every patent, secret and proprietary remedy must be disclosed to the Department of Health. A special commission should be vested with powers to permit or to prohibit the sale or advertisement of any remedy. It should be illegal to offer for sale or to advertise medicines purporting to cure cancer, consumption, lupus, deafness, diabetes, paralysis, fits, epilepsy, locomotor ataxy, Bright's disease or rupture (without operation or appliance). All advertisements of

remedies for diseases arising from sexual intercourse, or referring to sexual weakness, should be prohibited, and the same should apply to advertisements suggesting that the medicine offered for sale is an abortifacient. Other important remedies are suggested, but need not claim our attention at present.

It is quite clear that the Select Committee recognizes that secret and patent remedies which are advertised as cures for cancer and the other diseases enumerated above are without exception fraudulent and calculated "to cause injury by leading sick persons to delay in securing medical treatment." This is true all the world over, and if it be illegal and injuries to the public to offer such nostrums for sale, what about the proprietors of newspapers who accept payment for this purpose? Ignorance cannot be pleaded, for the Select Committee has announced in fearless terms what every educated person has known for years. We would therefore suggest that the legislation introduced in connexion with the secret remedy traffic should provide for a very severe penalty for accepting a prohibited advertisement.

Since the effect of this traffic is widespread, and is not different in the various States, it would be advisable if Australian legislation in this respect were Federal. The same conditions should be set and the same penalities prescribed for all parts of the Commonwealth. The machinery already existing in regard to the analysis of imported goods should be utilized and extended, and this should be supported by stringent laws controlling the advertisement and sale of these remedies. Moreover, it would be well to institute the practice existing in parts of Germany and Austria of the publication of lists of prohibited nostrums, together with a warning to the public of the danger associated with the use of these medicines.

Finally, a few words should be devoted to those patent and secret remedies which cannot be regarded as fraudulent, but which are injurious in so far as they permit the patient to treat himself on an imperfect diagnosis. The success of this class of remedy is largely due to the fact that in numerous instances the members of the medical profession use them. It may be that the results obtained by them are fairly satisfactory, as is undoubtedly the case in some of the "asthma cures," or it may be that the article in question enjoys a good reputation in the eyes of the public, or else it may be that, being very expensive, the patient is impressed by its supposed value. This practice on the part of medical practitioners is singularly unfortunate. A physician should avoid proprietary or patented preparations as much as possible, firstly on purely ethical grounds, secondly because the thoughtless employment may prejudice the position of the profession in any question that may be raised in regard to the same class of remedy, and thirdly because there is no need to employ another person's prescription. The same considerations apply in regard to medicated wines. As is well known, many cases of alcoholism have arisen from the thoughtless prescription of somebody's tonic wine. If the physician would only consider the possible consequences of his advice in these cases, the public would be all the better for it, and the endeavour to suppress a highly noxious traffic would be materially assisted.

SPIRITUAL HEALING AMONG THE MAORIS.

A curious case of alleged "tohungaism" was tried at the Patea Court, Wanganui, New Zealand, on October 1, 1914. A young Maori named Poi Awarua was charged under the Tohunga Suppression Act, 1898, with having pretended to cure disease by supernatural means. The evidence showed that a Maori woman had died after having been treated by Poi Awarua. The defence set up consisted in a denial of the offence of claiming supernatural powers, and also in a denial of the allegations as set forth in the charge. The defendant claimed to be a preacher, but he had exhorted the Maoris to give up the worship of Maori idols and the gods of their ancestors. It appeared from the evidence that Poi did not make money out of his practice, but that he utilized curious methods of treatment. In one case of supposed possession by an evil spirit, he hit the patient on the nose, making it bleed, and then made the man drink his own blood to drive out the spirit. The magistrate fined Poi £10 and costs. Our own spiritual healers usually get off with a warning.

THE MODERN BULLET WOUND.

In last week's issue we published a letter from Dr. Hornabrook, in which he gives a brief description of the wounds received by the late Dr. B. C. Antill Pockley in German New Guinea. He points out that the Germans are using a very sharp, long-pointed, nickel-coated bullet, while the natives were using a bullet similar to that used in the old Martini-

Henri rifle. The narrow, coated bullet produces an extremely small entrance and exit wound, and inflicts extraordinary little injury to internal organs. The experience of the Boer War, and later in the Manchurian and Balkan campaigns, taught that conservative means suffice for the treatment of wounds from projectiles of this nature. Instances of a bullet impinging at great velocity on the skull penetrating the bone and running round on the inner surface of the internal table, without effecting a serious injury to the brain were met with in the South African war, and demonstrated for the first time that a bullet wound may be a comparatively harmless injury, provided that the bullet is intact when striking. Jagged and mutilating wounds follow as the result of ricochetting bullets, especially when the nickel coating is partly stripped off. Military surgeons of experience have come to the conclusion that it is bad surgery, at all events at the front, to attempt to seek the foreign body or to explore the track of the wound to remedy the lesions produced. We learn that General Delorme has issued a serious warning to military surgeons not to depart from this conservative attitude in the present war, and even when a bullet has passed through the abdomen, not to open up the cavity with the object of repairing the wounds of the intestines (1). The high velocity, narrow, modern bullet produces a very small wound in the intestine. In nearly every case, the wounded soldier empties his bladder and evacuates his bowels immediately after being wounded. General Delorme states that if total abstinence from food and drink for several days be enforced, if the patient be kept absolutely quiet and be not transported for some time, and if opium be given freely, a plastic exudate is rapidly thrown out, and seals off the wound in the intestine, thus preventing any escape of its contents. Other eminent surgeons of other countries have come to the same conclusions. The mortality from gun-shot wounds can be reduced very considerably if the surgeon follows conservative principles, if all means are taken to prevent extravazation of blood and the contents of the gastro-intestinal canal, and if the immunizing power of the organism are supported by various artificial means. It may be very tempting to the young military surgeon to cut down, as soon as he comes across an abdominal wound, on the broad principle that the peritoneum does not tolerate a foreign body, but under the conditions of the battlefield this tendency must be checked, and the surgical practice in the field must be adapted to the actual conditions found to exist. This forms a striking instance of the value of experience.

(1) Blessures de guerre, by General Edmond Delorme, Comptes rendus de l'Academie des Sciences, Aug. 10, 1914.

MELBOURNE UNIVERSITY.

On October 6, 1914, the Victorian Legislative Assembly discussed the government of the Melbourne University. The majority of the speakers urged that if public money were to be spent on the remodelling of the buildings, some of the sum put aside should be allocated to the remodelling of the system of government. Mr. Solly was of opinion that the present control was a most conservative one, and the claim was put forward that young men and women should not be debarred from university education simply because they were poor. He wished to give those young persons of the working class who were possessed of brains the same opportunities as their richer brothers and sisters. Some want of clearness appears to exist as to the intentions of the Government in regard to the university. Mr. Mackey objected to the statement that it was proposed to spend £150,000 on the buildings, but he did not make any announcement as to what the Government intended to do. The record of the Melbourne University deserves a liberal treatment at the hands of the Government.

THE NEW ZEALAND UNIVERSITY.

A bill for the amendment of the constitution and government of the New Zealand University has been introduced by the Minister of Education. It is proposed to set up a "Board of Studies," consisting of five members from each of the professorial boards of the University of Otago, Canterbury College, Auckland University College, and Victoria College. The appointments are triennial. The powers of the Board are to include the recommendation to the Senate of the appointment of examiners, of the granting of degrees, diplomas, scholarships and prizes, and of the conduct of examinations and courses of study. It is further suggested that the Senate may delegate its power to the Board in regard to the carrying out of these duties. Scholarships not to exceed 20 in number are to be set up, and to be called University National Scholarships. They will be awarded annually, and will be held on the same condition as apply in connection with junior scholarships. The scholar will receive £20 a year in addition to tuition fees, or when he resides away from home, £50 a year with tuition fees added. The bill also makes provision for the establishment of bursaries and national research scholarships. The latter are intended to stimulate research in physical, natural or applied science, more especially in connection with the industries of New Zealand. Provision is made for the payment of sums varying from £2000 to £5000 a year to the four affiliated colleges.

Obituary.

CHARLES W. GRIGSON.

We deeply regret to record the death of Mr. Charles W. Grigson, who was for many years a familiar figure at the offices of the New South Wales Branch of the British Medical Association.

Mr. Grigson was born in Norfolk, England, in 1847. When 5 years old he met with an accident which resulted in spinal curvature. He entered as a medical student at the London Hospital, and continued his studies for two and a half years, but ill-health compelled him to abandon his medical career. He then took to literary work, and wrote for the Norwich newspapers. He came to Australia in 1893, and in November, 1895, he began work as secretary to Dr. S. T. Knaggs, the Editor of the "Australasian

Medical Gazette." From that time until the present year he gave his time and attention to assisting in the conduct of that journal. He also filled the positions of assistant secretary to the New South Wales Medical Union, assistant secretary to the Sydney and Suburban Provident Medical Association, and assistant librarian. On the cessation of publication of the "A. M. Gazette" his services were retained for similar duties in connection with the "Medical Journal of Australia," and he was actively engaged in this work when fatal illness overtook him. Until the early part of the present year he never took a holiday, but was always at his post. In March last, after a short illness, he was induced to take a brief holiday, but he was never the same man again. Five weeks ago he had a severe attack of heart weakness, from which he did not recover, and he passed away on October 8.

Mr. Grigson was extremely modest and retiring, and only those who had the privilege of close intimacy with him fully realised his worth. He was full of zeal and enthusiasm in his work, but was able also to thoroughly enjoy a game of billiards or dominoes. He was well read, and humorous, and his kindly heart and gentle disposition won the love and esteem of his relatives and friends. We extend our heartiest sympathy to his relations in England as well as to those in this State.

The funeral took place at Waverley Cemetery on October 10.

Correspondence.

THE ARMY MEDICAL CORPS UNIFORM.

Sir,—In view of the fact of the death, by gun-shot wound, of one of the officers of the Australian Army Medical Corps attached to the Expeditionary Force, which went to New Guinea, I think the time has come when the Medical Corps should have a distinct and characteristic uniform. As it is, the members of this corps are quite undistinguishable from the soldiers forming the combatant part of the army, except for a small red cross attached to the arm. In an account of how Dr. Pockley died, one of the papers says: "It was due to a faulty piece of sewing. When our fellows were rowing to the shore, one of the men lost the red cross off his arm; it had become loose, and he was going to sew it on. The red cross fell overboard, and there was nothing on his coat to show that he belonged to the Army Medical Corps. Later on a coat was wanted, and this man generously gave his coat. Dr. Pockley then gave his red cross and the emblem was placed on the sleeve. A few minutes later the brave young doctor fell."

I would suggest that a white or very light khaki uniform be worn, with a red cross woven into the material of the tunic going the whole length and breadth of the garment and showing on both the front and back. They should be also supplied with a shirt with a similar red cross on the front and back, so that if it were necessary, at any time, to remove the tunic, the soldier would still be recognizable as a Army Medical Corps man. As it is, the badge is small and cannot be seen at any great distance, and the members of this non-combatant corps, whose function it is to attend the wounded of either side, and who should be more or less immune to death from gun-shot wounds, run as great or perhaps even a greater, risk that those who are in the fighting line.—Yours, etc.,

NORMAN J. DUNLOP, B.A., B.Sc., M.D., Ch.M.

Newcastle, Oct. 11, 1914.

Naval and Military News.

NAVAL APPOINTMENTS.

The following have been appointed surgeons on probation in the Permanent Naval Forces of the Commonwealth (sea-going):—

Robert Agnew Eakin, Jack Garland Skeet, Arthur Charles Robert Todd.

MILITARY.

Dr. F. N. Le Messurier, Dr. L. W. Jefferies and Dr. J. S. Vaico, all of Adelaide, have been appointed captains in the Australian Army Medical Corps, 4th Military District.

Messrs. Duncan and Fraser have notified our Adelaide correspondent that they have presented a Ford motor car to the South Australian stationary hospital. It is understood that the car will be utilised for foraging purposes.

Messrs. Rodman and Doetsch, of Sydney, have presented the Australian Field Hospital with a complete X-ray outfit.

Dr. A. L. Kenny, the President of the Victorian Branch of the British Medical Association, has received the following letter:—

Commonwealth of Australia.

Department of Defence,

Melbourne, October 6, 1914.

Dear Sir,—With reference to your request that Surgeons and Physicians on the Honorary Staffs of leading hospitals should be allowed to volunteer for service abroad for limited periods of, say one year, instead of for the whole campaign, I beg to inform you that it has already been decided that, subject to approval, leading medical men volunteering for service in hospitals, Australian Imperial Force, may, if they so desire, be appointed for 12 months from the date of embarkation.

Yours faithfully,

T. TRUMBLE,

for Secretary.

Dr. A. L. Kenny,
13 Collins Street, Melbourne.

Proceedings of Australasian Medical Boards.

The following persons have been registered under the provisions of the Medical Act of 1867, as duly qualified medical practitioners:—

QUEENSLAND.

Ott, Augusto (Ayr), M.D., Ch.M. Univ. Pisa, 1901.
Sinclair, Archibald Fletcher (Croydon), M.B. Univ. Syd., 1909.
Thomas, Frederick Samuel (Townsville), M.B. Univ. Syd., 1914.
Windsor, Henry Joseph (Toowoomba), M.B., Ch.B. Univ. Glasg., 1909.

SOUTH AUSTRALIA.

Godby, William Heitland, M.B., B.S. Melb., 1914.
Hamilton, William, M.B., B.S. Melb., 1914.
McCristal, M.B., B.S. Melb., 1914.
Alan Pryde, M.B., B.S. Melb., 1914.

For additional registration:—

Smith, William Ramsay, M.D. (Edin.), 1913, (M.B., Ch.M. (Edin.), 1892.)

Medical News.

The Hon. J. W. Blair, Minister for Education in Queensland, stated in the Legislative Assembly on October 7, that considerable improvement had been noted in connexion with the prevalence of trachoma among school children in the West, and that in the course of a few years the disease would be stamped out.

In conformity with the New Dental Defectives Act, the titles of the positions held by Dr. W. L. Cleland, of Adelaide, and Dr. W. H. Downey, of the same city, have been altered. The former is now Superintendent, and the latter Deputy Superintendent, of the Parkside Mental Hospital and of the Hospital for criminal mental defectives. We understand that twelve months' leave of absence on full salary has been granted to Dr. Cleland, and at the expiration of his leave he will retire from service.

Abstracts from Current Medical Literature.

SURGERY.

(153) Experimental Intestinal Obstruction.

In Annals of Surgery, May, 1912, Stone, Bernheim and Whipple summarize their recent experimntal work on this subject. They found that the isolation by double ligatures of a loop of duodenum and high jejunem, after establishing the continuity of the alimentary tract about the loop, produced in the dog rapidly fatal results. The symptoms presented by the animals suggest an intoxication of some sort, and it was found that the fluid which collected in the closed loop, when injected into normal dogs, produced marked reaction. The toxin is secreted by the mucous membrane of the loop, and is found partly in the fluid and partly in the cells themselves. Drainage of the closed loop eliminates some of the toxin, and favourably influences the post-operative course. Absorption takes place both from the loop contents and the mucosa. It is possible by the injection of sub-lethal amounts of the toxin to immunize dogs against fatal doses, and it has been found that the liver, spleen and intestinal mucosa play an important part in the production of the immunity. The authors are of the opinion that the intoxication in closed loops is similar to that in simple obstruction. Further, the importance of absorption from the mucosa indicates that the simple establishment of an enterostomy for drainage may not meet all requirements. They hope that treatment with an antitoxin may become a useful auxiliary to surgical treatmen.t

(154) Anoci-Association Anæsthesia.

L. Frank (American Med., July, 1914) is of opinion that Crile's method of inducing anæsthesia by what he terms anoci-association diminishes the danger to life in surgical procedures. The anoci-association method is carried out as follows:—A hypodermic injection morphine and atropine, morphine and scopolamine, or morphine alone is given from 15 to 30 minutes before the operation. The patient is then taken to the operating theatre, where he is anæsthetized with nitrous oxide and oxygen. The line of the proposed incision is then injected with ¼ per cent. novocaine solution. In abdominal operations, after the peritoneum is opened, infiltration with cocaine and subsequently with ¼ per cent. solution of quinine-urea-hydrochloride is carried out. The mesentery is also injected before being cut. Injections with novocaine are made around any organ in the abdomen on which the operation is to be performed. At the close of the operation the muscles, fascia and skin, and also the tissues involved in ligaturing vessels and in suturing, are injected with the quinine-urea solution. It is held that traumatic shock is avoided by cutting off the transmission of sensory messages from the field of operation to the brain. In general anæsthesia, while the tissues are completely anæsthetized, the brain is only put out of function in so far as super-consciousness is concerned. By the combination of a safe general anæsthesia with local anæsthesia reflexes and conscious feeling are abolished, and no afferent painful messages are impressed on the subconsciousness. The author has utilized this method in his practice with satisfactory results.

(155) Exclusion of Pylorus.

W. Bartlett (Journ. America Med. Assoc., Aug. 15, 1914), records the histories of 27 patients in whom he performed exclusion of the pylorus for gastric ulcer. In 15 this was accomplished by a transverse division of the stomach and blind closure of the resulting blind ends. In 12 cases he associated with a completed or partial exclusion a posterior gastro-enterostomy. He states on the basis of his experience that he is not prepared to deal with remedial conditions which do more than relieve the anatomical condition temporarily. Closure of the pylorus cannot protect a gastric ulcer proximal to it, even in the presence of gastro-enterostomy. The pyloric antrum drives the contents as far as possible toward the closed pylorus before allowing them to escape through the new opening. Gastro-enterostomy alone does less good the farther the lesion is from the pylorus. He has obtained satisfactory results with unilateral exclusions of the affected area. This operation should replace excision or pylorectomy when technical difficulties are met with. It prevents the gastric contents from passing over the ulcer, stops pain, diminishes the risk of hæmorrhage, and, by placing the excluded portion at rest, allows the ulcer to heal, thus decreasing the tendency to malignant degeneration. Complete transverse division of the stomach cannot stop the secretion in the pyloric antrum on account of the complex nerve connexions, and the peculiar reflex nervous action of the intrinsic ganglia. He describes two methods of performing unilateral exclusion of the antrum, both of which yield good results. Both methods are relatively simple, and take less time and involve the division of fewer blood vessels than transverse division. In the second of his methods he admits that a time-honoured principle is violated by the approximation of mucous surfaces.

(156) Visceral Pleurectomy for Chronic Empyema.

Charles Mayo and E. H. Beckman (Annals of Surgery, June, 1914) discuss the surgical treatment of chronic empyema. They review Estlander's operation and its many modifications, pointing out that occasionally some empyema cavities do not heal, even after extensive resections of ribs. It was for this reason that Schede devised the operation which bears his name. This consists in removing the thickened parietal pleura and muscles, in addition to the ribs, so that the skin and superficial muscles rest directly against the thickened visceral pleura. The operation is severe, and frequently causes alarming, if not fatal, shock. The authors direct attention to the operations simultaneously described by Fowler and De Lorne, who removed the thickened visceral pleura from the diaphragm and lung to allow of obliteration of the cavity by expansion of the lung. They have performed this operation with very satisfactory results in four cases, which they report at some length. Stress is laid upon the necessity for a careful pre-operative preparation of the patient. Free exposure must be obtained to make every portion freely accessible. The entire cavity should be cleansed with strong tincture of iodine before pleurectomy is begun. The incision through the thickened pleura is best started posteriorly along the vertebræ. The bleeding is not excessive, and pneumonia has not occurred in their series. The operation may be performed in stages. One operative death has occurred in a series of seven cases. It is probable that too extensive an operation was attempted in this case.

(157) Thrombosis and Embolism.

Angus McLean has undertaken an experimental and clinical investigation into the etiology of thrombosis and embolism (Journ. American Medical Association, August 29, 1914). It is usually supposed that the formation of a thrombus is due to (1) trauma, (2) slowing of the blood stream, (3) infection, or (4) chemical changes in the blood. The author determined experimentally that after ligation of a vein in continuity, the blood only clots on the proximal side of the ligature. When a vein is ligatured in two places the blood in the segment between the two ligatures clots very slowly if the endothelium is uninjured; after the course of a week or so the clot disappears entirely. The simple crushing of a vein will not cause clotting at the point of crushing. After repeated crushing all the coats of the vein show an increase of fibrous tissue, but the intima remains smooth and glistening. No clot is produced if the crushing be accompanied by the injection of a 24 hour culture of staphylococci. A sterile thread was introduced into a vein in such a way as to leave about an inch oscillating free in the blood stream. No thrombus formed either at the point of introduction of the thread or round the thread itself. The introduction of a thread infected with staphylococci produced clotting at the point of introduction of the infected thread. The lumen did not become occluded; the thrombus remained suspended, although it increased in size. On the basis of these experimental data and of other observations, the author con-

cluded that endothelial damage is not in itself a cause of thrombus. Necrosis plays an important part in the production of thrombus. He is of opinion that the main contributing cause of thrombosis is an infection of slight virulence, associated with slowing of the blood stream.

OBSTETRICS AND GYNÆCOLOGY.

(150) Metrorrhagia.

Emil Schwarz ("Med. Record," July 25th, 1914) reviews the present aspect of cause of irregular uterine bleeding. Well-known causes are phosphorus and arsenic poisoning, anæmia, leukæmia, purpura hæmorrhagica and tumours, but endometritis is not a cause of metrorrhagia, its characteristic symptoms being a purulent discharge. Recent investigations disprove the identity of endometritis glandularis of Ruge and endometritis chronica of Scanzon. The former was based on changes due to menstrual phases, the latter on a pathological condition which frequently exists without the occurrence of hæmorrhage. More importance is being assigned to functional and organic diseases of the ovary as a cause of metrorrhagia. In displacements, the probable cause of hæmorrhage is primary or secondary disease of the adnexa. The non-coagulability of menstrual blood is fully discussed as an incidental factor in the question.

(159) Retro-Displacements of Uterus.

Flint ("Am. Jr. of Obstet.," July, 1914), discusses the subject of retrodisplacements from the standpoint, first of frequency; second, cause; third, prevention; and fourth, treatment and results. (1) In his private practice he found that about 16 per cent. of his patients exhibited retroversions, and in his hospital practice, 26.4 per cent. Taking hospital and private practice together, observations were made on 272 patients, and retroversion was found 58 times, i.e., in 21.3 per cent. (2) He asserts that the main cause of the malposition is a slowly involuting, or subinvoluted uterus, abnormally movable as it is after confinement, and often associated with lacerations. A study of the causes of retroversion after confinement, therefore, resolves itself mainly into a study of the causes of subinvolution, and he maintains that the chief influence of lacerations of the perineum and cervix is not mechanical, but arises from the fact that they delay involution not only of the uterus, but also of the vagina. In support of his contention, he records the fact that in all of his cases the lacerations were immediately repaired after labour, and in further support he makes a striking comparison between the frequency of lacerations in the retroversion cases with that of lacreations in cases where there was no retroversion. He admits that the dorsal posture, the binder, tight clothing, over-distension of the bladder, straining at stool, and the early getting up are frequent contributing causes after the tenth or twelfth day, provided there is no subinvolution and a relaxation of supports. (3) For prevention, the most important measure is to favour rapid and complete involution of the uterus after the immediate repair of all lacerations. By the twelfth day, when the uterus should be a pelvic organ and the lochia finished, a daily douche, as hot as the patient can bear, should be given, and a bi-manual examination carried out every four days, to ascertain the progress of involution. If the uterus is large and flabby, the case is no longer considered normal, and ergot, or a combination of ergotin, quinine and strychnine should be given three times a day in addition to the douches. After the third week tampons of tannic acid and glycerine should also be used. As an additional measure, nursing the child for at least two months should be strongly advised. Posturing (especially the genu-pectoral position after the twelfth day) should be carried out as a routine measure. The binder should be discarded after the tenth day. Urine should be passed regularly, and the bowels kept well open. He condemns the fad of post-partum patients getting out of bed in two or three days. (4) If retroversion occurs two or three weeks after delivery, the treatment consists of douches, ergot, and knee-chest posture. If between end of third and sixth weeks, tampons of glycero-tannin every third or fourth day should be used in addition to the measures enumerated. After the sixth week pessaries may be used, but not before. During the time the pessary is worn the patient should assume the genu-pectoral posture for five minutes twice daily.

(160) Uterine Hæmostatics.

Birnbaum ("Zentralbl. für Gyn," Ap. 11, 1914) publishes his experiences with a new local uterine hæmostatic, called "inhibin." A large tablet of inhibin is placed in the vagina against the cervix, with the result that a dense foam of CO_2 is liberated. In addition to the CO_2 the bubbles of foam contain a mixture of stypticine, adrenalin, quinine and other hæmostatics. These are carried by the foam into the folds of the mucous membrane. He treated twenty-three cases in all. In twelve, bleeding ceased in 1-2 days; in five it ceased in 1-2 days, but recurred later. Complete recovery was, however, secured in these cases by a second course of treatment. Five cases required up to eight days' treatment before the bleeding stopped. One case which proved to be intractable showed upon operation the presence of submucous, as well as interstitial fibroids. The cases consisted of bleeding at puberty and the menopause, endometritis, small fibroids, diseased adnexæ, and two cases from undefined cause. Deutsch, in the same journal, gives his results with "pituiglandol" for hæmorrhage at puberty. He states the pituitary extract was tried in the Rothschild Hospital in Vienna, in the treatment of every kind of uterine hæmorrhage, but it proved worthless except in the case of hæmorrhage at puberty, in which condition it not only caused cessation of the bleeding, but regularity of the periods. 1 c.c.m. of pituigiandol (Hoffmann-La Roche) was given by subcutaneous injection daily for 15 or 20 days. All the cases were extremely anæmic from profuse and prolonged uterine hæmorrhage. The latter ceased after the second or third injection. The general condition became greatly improved, the periods occurring at five or six weekly intervals, the loss being distinctly less.

(161) Etiology of Eclampsia and Albuminuria.

Young (Proc. Royal Soc. of Med., June, 1914) gives an exhaustive account of an anatomical and experimental investigation into this subject, and its relation to accidental hæmorrhage. He comes to the conclusion that eclampsia and albuminuria of pregnancy are due to the liberation of the products of the early autolysis of the placenta, and claims that this hypothesis is established by the following considerations: (1) The toxæmias of pregnancy are especially associated with recent infarction of the placenta; (2) placental infarction is due to the interference with the maternal blood supply of the part; (3) the interference with the maternal blood supply which is responsible for the infarction is not dependent upon a toxic state, and, in point of fact, may occur in the extreme form where there is no evidence of a toxæmic, e.g., accidental hæmorrhage; (4) the placenta is so constructed that if a part of it die, the products liberated from the dying patch can pass directly into the blood stream. Thus, for the occurrence of a toxæmia, a circulation of blood round the poison-generating foci is necessary. This fact explains the cessation of symptoms after the death of the child (and separation of the placenta), and it also explains the absence of a toxæmia in cases of accidental hæmorrhage, in which the placenta is completely detached by the blood clot. The cases of accidental hæmorrhage, associated with the toxæmia, are those in which there is only a partial separation of the placenta; necrosis of the detached part liberates the toxic materials which are absorbed by the adjacent attached part. (5) Where the placental disease is gradual in its onset, there is more chance of evolution of the infarcted patches. This explains why in long-standing albuminuria, there may be more visible placental disease than in acute eclampsia. (6) These facts all suggest that toxæmias are due to autolytic products liberated in the early stages of placental death. The author has experimentally reproduced the clinical features and morbid changes of eclampsia, e.g., convulsions, necrosis of liver, and degenerative kidney changes in animals by injecting soluble materials isolated from healthy placenta. He explains post-partum eclampsia as caused by fœtal poisons liberated from small pieces of retained placenta.

Contract Practice.

I.

Since the medical profession in various countries has consented to tend the wage-earner under contract for a stipulated sum, the principle underlying an insurance has largely been lost sight of, and charity, or at least human kindness, has governed the conditions. Under a strictly business-like arrangement, the premium for medical attendance on persons of any class should be measured by the average number of visits and surgery attendances rendered to an individual or family multiplied by the private fee which is usually charged to persons of the same class. In the older countries this method of arriving at a fair rate of contribution has never been put into practice, partly because until quite recently the average amount of sickness and requisite medical attendance had not been worked out, and partly because in the old days the managers of provident dispensaries or Friendly Societies offered a sum for a contracted service which, if it were refused by one medical man would have been accepted by another. The gradual but sure intervention of Governments in the conditions of life of the population has brought it to the mind of the medical profession that the days of chivalry and charity are past, and that a fair return for work done may justly be claimed in medicine, as it is in other callings. Before the relations between doctor and patient are regulated by the State, it will be well if the profession determine exactly the terms under which good work can be performed, and avoid having to explain why much attendance in the past has been given to the wage-earning class at a rate and under conditions which were neither equitable nor reasonable. One of the difficulties which the profession had to meet when national insurance was introduced in England was connected with the rate of contribution. The argument was put forward that if the doctors had been able to make fair livings during the period when many of their club patients were paying as little as 1d. per week, it would be unreasonable to ask 10/- per annum. It is always difficult to persuade men that the medical profession has allowed itself to be sweated, partly out of pity for the misfortune of the people, and partly because its organization was not strong enough to enforce reasonable terms.

The problem is the same in all countries where a contracted service is in force. In England, excellent work was done since the reorganization of the British Medical Association, in regard to contract practice, and one of the most valuable reports which it has ever drawn up was the Contract Practice Committee's report of 1905. In this report the intolerable conditions of this form of practice in England was vividly illustrated. That this work of enquiry was not followed by a more efficient organization, and binding together of the profession, has been a source of trouble in the profession at its most trying juncture. It may, therefore, be of use in the Commonwealth at a time when the profession is becoming strongly and well organized, and before any definite steps are taken by the Governments to take over the control of contract practice in one form or another, to learn from the experience of England and Germany, and to analyse the progress which is being made in the organization of the profession in the Commonwealth, in the light of this experience. In this series of articles, it is proposed to deal with the recent events affecting the medical profession in Germany up to the time when information of professional matters was interrupted by the war. The history of the relations of the medical profession with the Friendly Societies in Australia will then be dealt with, and, lastly, an attempt will be made to draw some lessons from the facts elicited which may be of use within the near future.

The Insurance Difficulty in Germany.

Every reader of the "Medical Journal of Australia," being a member of the British Medical Association, will have access to the accounts of the Insurance Difficulties in Germany, given in the "British Medical Journal" during the closing months of 1913 and the opening months of the current year. It will, therefore, not be necessary to recite the whole story of the struggle. In the "British Medical Journal" of March 7, 1914, p. 547, will be found a "Retrospect of the German Insurance Struggle." It will be seen from this article that the profession had resisted the machinations of the Insurance Societies on the eve of the introduction of the new Imperial Insurance Order, and that within a few days of its effective introduction, the whole medical profession of 32,000 members, save a paltry 150 men, were prepared to refuse service on January 1st. On the 23rd of December, 1913, the Medical Faculties of the various Universities interceded with the Government, and an agreement, now known as the Berlin Agreement, was arrived at, whereby the disaster of a universal medical strike was averted. It will further be noted that the chief condition of the Berlin Agreement was contained in paragraph 11, which provided for the immediate dismissal of the imported men, and the compensation of these men partly by the insurance societies and partly by the Leipzig League, representing the doctors. Reference will be made to other important provisions in the following account of the sequel.

The reader is also referred to another article in the "British Medical Journal," published on March 28, 1914, page 726, in which the organization of the profession in Germany is described in some detail.

During the first three months of the present year, some of the societies set to work to carry out the conditions of the Berlin Agreement, and normal relations with the medical profession were restored. But in a large number of places the insurance societies adopted a policy of delay, and various reasons were put forward for the fact that the Agreement had not been ratified. The Federations of Insurance Societies gave promises glibly enough, but on every occasion adopted a distinctly hostile attitude. In Breslau, matters assumed a fairly promising aspect late in March, but in Stettin the societies kept on insisting on further stipulations, which they wished to make conditional on the acceptation of the Agreement. In Elbing, the societies refused to move at all, and no effort was made either to nominate members to serve on the various committees instituted by the contracting parties of the agreement, or to terminate the contracts which had been entered into toward the end of the previous year with "strike-breakers." In Hessen, the managers hid themselves behind irregular interpretations of the wording of the agreement, and attempted to find a method of avoiding to carry out the spirit of the Agreement, while the letter was respected. The attempt was not successful, but the committees of the insurance societies appeared to think that they had manœuvred very cleverly. In some of the cases the insurance societies declared that they were not bound by any agreement made between the Federations of the Insurance Societies and the Leipzig League. About this time some of the federal governments intervened. In Hessen the Government suggested that since certain differences of opinion had arisen within recent times, it might be feasible to recur to an agreement which had been effected in 1913, and which had satisfied both parties. To this the Insurance Societies replied that the terms of the 1913 agreement were not in accord with the letter of the Berlin Agreement. In Baden, the Government attempted to exercise its authority by insisting on the terms of the Berlin Agreement being varied to form a compromise between that agreement and a former one which had been effected a few months previously. The insurance societies, after some resistance, promised to carry this into effect, but took no steps to do so.

Early in April the Leipzig League scored a signal victory in Breslau. The insurance societies were forced to come into line. The strike-breakers were dismissed, and were precluded from practising in that town. The societies paid up their halfpenny contribution for the purpose of buying these men out, and the Leipzig League did the rest. The Breslau men had set great store on the introduction of free choice of doctor. In view of the fact that 85 per cent. of the general practitioners in the town were accepted as insurance doctors, the League agreed to suspend the claim for free choice on the condition that after a period of two years the subject should be re-examined, and if cogent reasons could be found for the innovation, free choice of doctor should be instituted.

A new difficulty arose in April, to which the Leipzig League gave its attention, and which promised to be troublesome. The chief Insurance Committee of Wiesbaden

found a novel interpretation of the clause dealing with the register of insurance doctors. According to the clause, every doctor who has been doing contract practice work in the district, or in the neighbouring district, is to be registered automatically by the Insurance Committee, and all registered medical practitioners who desire to undertake this form of practice may also be registered. The Wiesbaden Chief Insurance Committee made up the register without inviting the local profession to send in claims to be registered, and further included in the Frankfurt list the names of men practising in Höchst, on the ground that Höchst was a neighbouring district. A list made up in this manner naturally becomes quite useless for working purposes, because the men could not possibly attend from one town to another. The intention of the Agreement was to provide for the overlapping in the various districts. A man living in the outskirts of one district might have his practice largely in a neighbouring district. The effect of this interpretation was to give the insurance societies in the Wiesbaden area an opportunity of pointing out that the agreement was unworkable. The Leipzig League immediately took the matter up, and appealed to the Chief Insurance Committee to carry out its duty without quibbling.

The next opposition which arose in regard to the carrying out of the Berlin Agreement emanated from the newly-formed country insurance societies (Landeskrankenkassen). In order that these infantile bodies could escape from their obligations, they claimed that they had had nothing whatever to do with the whole strike-breaker affair, and, further, that they had no accumulated funds out of which the compensations could be paid. In these cases, as in all others, the Leipzig League dealt very firmly. None of the members were allowed to sign agreements until the society concerned had accepted the conditions in full. In every case, the "strike" was persisted in as soon as unreasonable opposition was shown on the part of the insurance society. About this time (the middle of April) a curious society was formed. This society was called the General Union of German Country Insurance Societies. As far as we have been able to ascertain, the Union failed signally to obtain the recognition of the societies which it purported to represent, and it certainly was quite unable to combat the Leipzig League, with its exact methods and excellent organization. A weak attempt was made to wriggle out of the obligation to pay mileage in the country. An appeal was immediately made to the Imperial Ministry for Internal Affairs (Reichsamt des Innern) for a decision on this point. The Imperial authority acknowledged the principle that medical fees should not be subjected to deductions in respect to necessary expenses incidental to insurance practice. The doctor had a right to receive the fees agreed on in full, and was not expected to pay expenses out of the same. This, no doubt, assisted the League in its forward struggle, and in certain districts matters assumed a more favourable aspect. Each week a small number of places were removed from the warning notices, and only one or two fresh places were added. The progress was very slow. This was attributed to the unwillingness of the Insurance Committees to move in favour of the medical profession. An instance of what took place toward the end of April may be cited: An insurance society came to terms in regard to the setting up of the Registers' Committee and the Contracts' Committee, and also in regard to the Arbitration Committee, but all further progress was blocked because the Insurance Committee had not started the register of insurance doctors. The chief sinners in this respect were the Committees of Prussia, Bavaria and Baden.

The Annual Meeting of the profession (Aerztetag) was approaching, and it was felt by the Executive Council of the Leipzig League that sufficient time had been wasted, and that it was essential to bring matters to a head, if possible, before the meeting. With the object of stimulating the profession, and giving it encouragement in the continued struggle, the General Secretary (Dr. Hartmann), a man of quite exceptional capabilities, published early in May a review of the facts connected with the Berlin Agreement, the contents thereof, and a general survey of the position. This document is too long, and contains too much detail to be dealt with in this place, but mention must be made of it, since it sums up in a remarkable manner the intentions of the League to press firmly, but without bitterness, for all the conditions of the Agreement. Hartmann pointed out how the terms could be rendered a favourable basis of an ultimate satisfactory settlement of all the difficulties felt by the profession. The insurance societies had been forced to accept some conditions which were neither desirable nor favourable. The doctors would have done without these terms, but they were now part and parcel of the agreement, and had to be carried into effect. He attempted to avoid the term "organization" in reference to the doctors; for he was anxious not to arouse the opposition of the societies. He showed clearly that the concessions made on both sides were calculated to lead to a friendly working together of the medical profession and the societies, if only a little goodwill were exercised. This attempt at conciliation failed, for some of the societies took up the thread of his arguments, and attempted to prove that Hartmann had misled the profession in giving a wholly false interpretation of the Agreement, and its significance for future insurance practice.

The Imperial Insurance Office, the highest insurance authority, intervened at this period in regard to a matter which had been actual before the Berlin Agreement had been arrived at, and which again threatened to be brought up. This was the possible alternative of an insurance society handing over to the patients a lump sum of money in lieu of providing medical attendance. The Office declared that a suspension of medical benefits could not be allowed. Insurance societies would be compelled to provide medical attendance, either by means of direct contracts with doctors or by means of contracts made between the patients and doctors. In this move the Leipzig League was assisted not a little, and a further progress was made when the Imperial Ministry for Internal Affairs was applied to decide certain doubtful points. Among other things, the Ministry decided that strike-breakers who had not yet been dismissed, could not take up insurance work in other districts. It also determined that all insurance societies should be guided in their action by the terms of the Berlin Agreement.

A small, but important, variation of the conditions governing compulsory insurance was forecasted late in June. It was pointed out that insuperable difficulty had arisen in the regulation of the insurance of those employed in trade at home. The term employed in the Order was "Hausgewerbtreibende," which in literal translation signifies persons engaged in a trade carried out in the house of the employer. On the other hand, difficulty had been experienced in the exact definition of this class of person. Past experience had led to a similar difficulty in connexion with private teachers, and a modification of the regulations had been adopted to meet this difficulty. The Imperial Parliament determined that it was not in the interest of the class concerned, nor was it practicable to carry out the compulsory insurance of this class.

On June 25th an announcement was made that the strike-breakers had formed a society, under the high-sounding name of Union of Independent Insurance Doctors of Germany. The members were well-known "blacklegs," who had been thrown out of Breslau, Düsseldorf, and Brunswick. The humorous side of this society lay in the decision that no strike-breaker could enter into a contract under the insurance order. It is not clear what the aims of this society were, but one thing emanates quite clearly, that by this time (June, 1914) the Leipzig League had successfully driven these gentlemen into a corner from which they could not emerge, and that they were no longer a danger to the medical profession.

On June 25, 26, and 27, 1914, the Aerztetag met in Munich, and dealt with the insurance question in a manner which clinched its fate. Never before had the profession been so strong. The debates were earnest, temperate, but determined. There was no sense of oppression or depression; each speaker gave evidence of the determination of the members of the profession in his district to work for a settlement on the lines of the Berlin Agreement, and while there was no boasting of victories gained over the insurance societies, no doubt existed as to the outcome of the struggle. The Leipzig League had proved its value.

Vital Statistics.

NEW ZEALAND.

The Government Statistician for New Zealand has issued his returns of vital statistics for the month of August, 1914.

The birth-rate of Auckland was equivalent to an annual birth-rate of 27.9 per 1000 of population; that of Wellington to an annual rate of 28.6; that of Christchurch to an annual rate of 21.5; and that of Dunedin to an annual rate of 18.8. The death-rate at Napier was 2.12 per 1000 of population; at Christchurch, 1.19; at Wellington, 1.15; at Dunedin, 0.92; and at Auckland, 0.82. At Lyttelton the death-rate was only 0.24 per 1000 of population.

VICTORIA.

The Government Statist of Victoria, in Part VI. of the Victorian Year Book, gives a very full account of the vital statistics of the State.

Births.

The actual number of births registered in Victoria in 1913 was 35,978, being 161 more than in the previous year. The increase has been fairly steady since 1903. The Statist expresses the opinion that about two-thirds of the increase for 1912 was due to the fact that after the Maternity Allowance Act came into force births were registered much sooner after their occurrence than previously. In 1870 the birth-rate was 38.07, in 1895 it was 28.46, in 1900 it was 25.79, and in 1913 it was 25.82. As compared with the other States, Victoria shows the lowest birth-rate in Australasia. In 1913 the rate was highest in Queensland (30.26), Tasmania (30.03), and Western Australia (29.39). It is stated that the birth-rate of the community is almost wholly dependent upon the proportion of wives at the reproductive period of life and their internal age distribution. The proportion of married women between the ages of 15 and 45 to each 1,000 of population, was lower in Victoria than in any other State. The variations in the birth-rate in various countries are tabulated. European Russia stands at the top of the list at 47.7. Spain, Italy, Japan, and Germany have higher rates than Tasmania, while the rates in Denmark, Norway, Switzerland, Sweden, Belgium, England and Wales, Ireland and France, are still lower. The rate for England and Wales was 24.6, and for France 19.5. In order to ascertain the diminution in the fertility of married women in Victoria, the Statist has prepared two tables, setting forth the corrected legitimate birth-rate. The figures calculated per 1,000 married women between 15 and 45 were: 303.14 in 1881, 281.98 in 1891, 238.75 in 1901, and 231.5 in 1911. When worked out on the basis of each 1,000 of population, the corrected birth-rates for the four census years mentioned were: 36.69, 34.39, 28.77, and 27.89. The legitimate births per 1,000 of married women have decreased by 24.9 per cent. in the last 20 years in Victoria. In 1913 394 cases of twins, and 2 cases of triplets were recorded.

The number of illegitimate births in Victoria during 1913 was 2,171, which gives a proportion of 6.03 to every 100 births registered. The illegitimate birth-rate is highest in Sweden (14 per cent.); high in Austria, Denmark and Japan; moderate (i.e., between 5 and 9 per cent.) in Germany, Norway, Belgium, Queensland, New South Wales, and Italy; and low in Tasmania, Western Australia, New Zealand, England and Wales, South Australia, Ireland, and Holland. In the last-mentioned country it was only 2.1 per cent. in 1910. In 1913 7.2 per cent. of the children born out of wedlock were subsequently legitimized under the 1903 Act.

Deaths.

The death-rate per 1,000 of population for the year 1913 was 11.11. The largest number of deaths take place in the quarter ending September 30. In 1908 and in 1912 the death-rate for the State was 12.45 and 12.23 respectively. With these exceptions the rate has varied around 11.5 during the past 7 years. While Victoria has a higher crude death-rate than any of the other States, it has a larger proportion of old people, and a higher percentage of all deaths affect persons of 65 years or over. On the other hand, the death-rate in Victoria is considerably lower than the death-rate in any of the European countries. The highest mean death-rate for the period 1907-11 was in Russia (30.9), and the lowest was in Norway and Denmark (13.7). In the United Kingdom it was 14.9. The Statist publishes some interesting tables, showing the proportion of persons living at 5 age groups in Australasia and for comparison in Sweden, and also showing the index of mortality for the various States. A marked improvement in the index figure in Victoria was evident in 1913.

In regard to the special causes of death in Greater Melbourne, the following figures illustrate the effect of the introduction of a sewage system, of the notification of infective diseases, of the destruction of insanity dwellings, of the improvements introduced in industrial hygiene, of the better supervision of articles for consumption and of the increase in knowledge in medicine generally:—

Cause of Death.	Deaths per 1,000 of Population. 1892-1901.	1904-1913.	Total Decrease in 1904-13.
Pulmonary Tuberculosis ..	1.654	1.084	0.570
Other Tubercular Diseases	0.446	0.300	0.146
Typhoid Fever	0.293	0.085	0.208
Scarlet Fever	0.333	0.014	0.019
Measles	0.215	0.038	0.177
Diphtheria	0.196	0.134	0.062
Total	2.837	1.655	1.182

Information is given in regard to the number of persons dying in the public hospitals of Victoria. The percentage of deaths of residents in the various areas of the State occurring in public hospitals during the period 1910-13 was 35.1 in Fitzroy, 35.1 in Port Melbourne, 33.9 in Melbourne city, 27.1 in Collingwood, and so on. In Greater Melbourne the percentage was 24.5 per cent., in the 7 country towns it was 16.3 per cent., while in the whole State it was 20.4 per cent. The percentage was lowest in Caulfield and Camberwell. A comparative analysis of births and deaths reveals the fact that Melbourne has a centisimal excess of births over deaths of 119, as compared with Sydney 159, Brisbane 162, and Wellington (N.Z.) 172.

The death-rate for Melbourne per 1,000 of population was 12.44 in 1913. In Moscow it was 24.3 in 1912, in Dublin 20.5, in Belfast 18.1, in Paris 16.3, in Edinburgh 15.7, in Berlin 14.4, in New York 14.1, in London 13.6, in Rotterdam 11.3, and in The Hague 10.9.

In regard to infantile death-rate, the Statist points out that the prejudicial effect of city surroundings on infant-life is evidenced by the mortality being heavier in urban than in rural districts. The rate of deaths under 1 year of age per 100 births was 7.05 for the whole State. This represents a distinct improvement on the conditions in 1912. It was highest in Bendigo, while in Ballarat and Melbourne the rate was higher than in Geelong. In comparing the death-rate in Melbourne with the infantile death-rate in various cities, it has been found that approximately the same order applies as in connexion with the general death-rate. Moscow heads the list at 33.3; in London it is 9.1, and in the Hague it is 6.6.

The most common cause of death under one year of age in Victoria in 1913 was diarrhœal disease (17.32 per 1,000 births); prematurity came next (14.48); marasmus, etc., accounted for 13.07, and bronchitis and broncho-pneumonia 6.7. The other causes enumerated were congenital defects and malformations, pertussis, convulsions, and violence.

Causes of Death.

The frequency of deaths from specified causes, expressed at a rate per 1,000,000 of population, is dealt with in detail. Heart diseases accounted for 1,294, old age for 973, cancer for 839, pneumonia for 767, pulmonary tuberculosis for 755, enteritis, gastro-enteritis, and diarrhœal diseases for 709, renal diseases for 594, accidental violence for 491, apoplexy for 420, acute and chronic bronchitis for 270, diphtheria for 176, tubercular diseases (other than phthisis) for 156, hepatic disease for 136, meningitis and encephalitis for 131, and suicide for 103.

Small-pox.

The number of persons vaccinated within the State is given as a percentage of the number of birth. The figure for 1913 was 69. This percentage appears to have been maintained approximately during the past 15 years. As a result of the outbreak of small-pox in Sydney in 1913, about 160,000 inhabitants were re-vaccinated. The Statist shows that the protective power of vaccination is very high; 89.5 per cent. of the Sydney cases had never been vaccinated, 5.4 per cent. had been vaccinated successfully within the incubation period, and 5.1 per cent. had been vaccinated more than thirteen years prior to the attack. He also quotes the interesting evidence of the epidemics in Sheffield, Warrington, Dewsbury, Leicester and Gloucester, as published in the Report of the English Royal Commission on Vaccination.

Enteric Fever.

During the course of the year 95 deaths were registered in Victoria occurring from enteric fever. This number represents a mortality rate of 68 per million of population. In 1890-2 it was 369, and from that time it has decreased steadily to the present figure. Enteric fever accounted for 50 deaths per 100,000 of population in Servia in 1907-9, for 27.0 in Western Australia, 21.9 in the United States of America, 17.9 in Queensland, 13.9 in New South Wales, 13.5 in Tasmania, 7.1 in South Australia, 6.0 in England, Wales, and Scotland, 5.7 in New Zealand, 4.3 in the German Empire, and 3.6 in Switzerland.

Other Infective Diseases.

During the year there were only 6 deaths attributable to scarlatina and 45 to morbilli. The mortality rate from the former disease was low, as it is everywhere in the Commonwealth. In England and Wales it is 7 per 100,000, and in Roumania it was 75.3. The death-rate per 100,000 of population from measles of 3.2 was also very low, as compared with 42.4 in Hungary, 39.9 in Scotland, and 37.5 in Spain. in New Zealand the rate was only 1.9. In regard to whooping cough, the death-rate per 1,000 of population was 7.1 for the year 1913, and 7.3 for the years 1911-13. In Scotland it was 37.9, in England and Wales it was 22.2, in Italy it was 16.9, in France it was 8.2, and in South Australia it was 5.4.

Diphtheria.

The fatalities due to diphtheria affect children over one year and under ten years of age chiefly. The introduction of antitoxin decreased the mortality five and a half times. In 1913, 4.8 per cent. of the cases ended fatally. The actual number of deaths from this cause was 245, which is equivalent to 17.6 per 100,000 of population. This rate is neither high nor low as compared with that of other countries. The highest rate was found in Hungary (42.7), and the lowest in the Netherlands (7.2).

Heart Disease.

The significance of diseases of the circulatory system on the public health has attracted much attention within recent years. Up to the present, however, but little has been done to diminish this class of fatality. In Victoria, the death-rate was approximately the same in 1913 as it was in 1907. The majority of the deaths were attributed to organic diseases of the heart, while a small number were due to acute endocarditis, pericarditis and angina pectoris.

Tuberculosis.

A great saving of life is recorded in respect to pulmonary tuberculosis within recent years. The improvement since 1890-2 represented a saving of 850 lives in 1913. The death-rates per 100,000 of population from this cause showed a very marked decrease in males in the age periods, 15 to 20, 20 to 25, and 25 to 30, while the decrease was not well marked in females of the same age. The death-rate from pulmonary tuberculosis during 1913 in Victoria was 7.6, while it was 10.8 in England and Wales, 13.7 in the German Empire, 16.1 in Switzerland, 17 in Ireland, and 34.4 in Servia. The distribution was irregular in Victoria; in Melbourne and its suburbs it was 9.6, in Ballarat and its suburbs it was 10.1, and in Bendigo and its suburbs it was 20.6. An attempt is made to correlate the annual report-rate and the death-rate from phthisis. The period taken was 2½ years, and with a notification-rate of 9.8, the death-rate worked out at 8.3. From the figures quoted, it would appear that many cases in the country are not notified at all.

A number of highly important questions in relation to tuberculosis are dealt with, and the Statist feels justified in stating that on the data available the chances of recovery from phthisis can be calculated. Of those who suffer from the disease in a form sufficiently severe to require medical attention, one out of every six recover. Whether the data are sufficiently reliable to warrant this estimate appears to be somewhat doubtful.

Cancer.

Cancer statistics have been used in the past for the purpose of proving a large variety of theories. The figures given by the Government Statist, however, are drawn up without any such object in view, and although they do not contribute materially to our knowledge of the etiology of the disease, they are worthy of careful study and consideration. The curious point brought out in the table setting forth the death-rates in age groups is the very high rate for the period of 75 years and over. A comparison with other countries shows that while the death-rate for all forms of cancer was 12.3 per 10,000 of population in Switzerland, it was under 10 in England and Wales, Germany, Ireland, Australia Victoria (8.4), Austria, France, the United States of America, Japan, Italy, Belgium and Spain. In the last-named country it was only 5.1.

Childbirth.

The death-rate of women during and after childbirth is still much too high. In the period 1871-1880, 64.38 mothers died to every 10,000 children born alive; in 1913, the rate was 49.20. The puerperal fever death-rate was the same in 1913 as in 1901-7.

TASMANIA.

The returns of the Government Statistician dealing with the vital statistics of Hobart, Launceston, and the country districts of Tasmania for the month of August, 1914, show a satisfactory condition of the health of the population. 212 births were registered, which is 46 in excess of the average in August during the last five-year period. Calculated on the basis of each thousand of population, the birth-rate for Hobart was 3.43, and for Launceston 3.04. In the country districts it was 2.64. The death-rate in Hobart was 1.05, and in Launceston 1.09. These figures include the deaths occurring in hospitals, asylums, gaols, etc. 31.88 per cent. of the deaths took place in public institutions. The death-rate for the country districts was 0.72. Two deaths from diphtheria occurred in Hobart, 1 in Launceston and none in the country districts. There were no deaths from typhoid fever, and only one from influenza, which took place in Hobart. In regard to the other causes of death, there were 10 due to diseases of the respiratory system in Hobart, and 5 in Launceston, 7 due to diseases of the circulatory system in Hobart, and 6 in Launceston, 4 deaths from cancer in Hobart, 3 in Launceston, and 5 in the country districts, and 1 death from tuberculosis in Hobart, 2 in Launceston, and 4 in the country districts. Four deaths affecting infants under 1 year of age occurred in Hobart, and 1 in Launceston.

British Medical Association News.

SCIENTIFIC.

At a meeting of the South Australian Branch, held on July 30, 1914, Drs. C. T. de Crespigny and L. B. Bull read a paper on primary enlargement of the spleen (see page 363.) In the discussion, Dr. W. A. Verco said that Banti described three periods of splenic anaemia. For the first period the spleen gradually enlarged, and toward the end of this period there developed an anaemia of a secondary type. This stage generally lasted 3-5 years, but sometimes went on for 12 years. In the second period the urine diminished in quantity and became more concentrated. The liver started to enlarge; the spleen remained about the same, and the anaemia became more pronounced. This stage lasted for several years. In the third period there occurred a

painless ascites, the fluid having the characters of a transudate; the liver commenced to shrink and atrophy and hæmorrhage took place. The patient died from hæmorrhages or auto-intoxication from liver atrophy.

The only efficacious treatment seemed to be splenectomy. If this were done in the first period, the surgical mortality was 25 per cent.; in the second it was 40 per cent.; and in the third 60 per cent. Consequently, in these cases, the diagnosis should be determined early, and a splenectomy performed in the early course of the disease.

Hill, of St. Bartholomew's Hospital, said there were two types of splenic anaemia, which he termed hæmolytic and cachetic. The blood changes in the hæmolytic type, resembles those of pernicious anaemia. Splenectomy cured the cachetic, but not the hæmolytic type, though it might relieve the symptoms and delay the commoner causes of death.

Sutherland and Burghard were of opinion that the juvenile type of splenic anaemia ran a more acute course than in the case of the adult. This seemed to be the case in the speaker's patient.

Dr. Gilbert described the case of a male, aged 18 years, whom he had seen recently for mild dyspeptic symptoms. There was a history of ferile attack in December, 1913, simulating typhoid fever. The only abnormal physical sign was a very definite enlargement of the spleen. There was no obvious anaemia, and the patient had failed to present himself again for a blood examination.

Dr. Gilbert had seen the case Dr. de Crespigny showed that had had profuse hæmorrhages from the bowel, some two years ago, after the second of these hæmorrhages. There was then no discoverable enlargement of the spleen.

A meeting of the South Australian Branch was held in the Lister Hall, Adelaide, on September 24, 1914.

Dr. F. S. Hone exhibited a case of myasthenia gravis, and discussed this condition in some detail.

Dr. R. E. Harrold read a paper on a case of epidermolysis bullosa. This paper will be published in a subsequent issue of the "Medical Journal of Australia."

Dr. Todd spoke of the case of a man, a member of the Expeditionary Force, who had been injured by his horse falling on him. On admission to hospital the patient was collapsed. The abdominal muscles were in a state of rigidity. No liver dulness was made out. The abdomen was opened by an incision below the umbilicus, and the intestines examined upwards from the ileo-cæcal junction. A rupture was found in the first part of the jejunum, extending over an area of the size of a florin. The edges were ragged, and some lymph had been exuded on the peritoneal surface. The rupture was united by a double row of linen-thread sutures, and the abdomen closed without drainage. He made an uninterrupted recovery.

Dr. Todd exhibited a very large prostate gland, removed on the same day from a man aged 82 years.

He also showed the neck of a sac of an injuinal hernia, showing marked cicatricial thickening. The patient, a young man, had never worn a truss, and Dr. Todd thought that the dense scar tissue had been produced by the constant pressure of the internal oblique and transversalis muscles. He suggested that the specimen demonstrated that notwithstanding a perfect valve-like arrangement of the muscles, a hernia was likely to result when the processus vaginalis was patent.

Dr. Gilbert showed a thin-walled cyst containing clear fluid, removed by Dr. R. M. Nanken from the pelvis of a single woman, aged 29 years. It was of the size of a goose egg, and was lying at the bottom of Douglas' pouch. Beyond a few filmy anterior adhesions, its only attachment was to the anterior surface of the rectum by means of three eppendices epiploicae. The ovaries and fallopian tubes were perfectly healthy, but the uterus showed myomatous change.

A meeting of the Tasmanian Branch was held at Hobart on September 22, 1914, Dr. Hogg, the President, in the chair.

Dr. G. M. Anderson read a paper on goitre. He quoted authorities at some length to show that the commonest cause of goitre must now be held to be an intestinal bacterium, probably b. coli communis. It was considered that the marked preference of the disease for deep valleys and its sharply defined endemicity, even in rain water drinking districts, where the "contagium vivum" was probably air borne, left something yet to be explained.

The association of thyroid function with calcium and oxygen metabolism suggested a possible relationship with dolomite formations, and with CO. or CO_2 collecting in sheltered valleys through "dislocations of the atmosphere." As the functions of the thyroid gland were complicated so compensatory hypertophy might result from diverse causes. It was considered that a number of accessory causes were often at work in the production of goitre —"causus multiplex." The reader advised a large cross plug be fixed at the bottom of water tanks to facilitate cleaning out, and its periodical use insisted upon by the health authorities. He had practised 23 years in the goitrous valleys of the Huon—a fruit-growing district—where the people were goitrous, irrespectively of whether drinking water was obtained from iron roofs, or wells or streams, and yet no other source of soil contamination of food was evident.

A meeting of the New South Wales Branch was held at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, on Friday, October 9, 1914, Dr. David Thomas, the President, in the chair.

Dr. Burton Bradley demonstrated some microscopical preparations. The first specimen was a section of a kidney obtained post-mortem from a child aged 12 months. The clinical history in brief was that the child had been suddenly seized with acute abdominal symptoms which necessitated a laparotomy. At the operation a tomour was found in each kidney. The child died a few hours after operation. One of the kidneys was of the size of a cricket ball, and the other was twice as large. Both showed practically the same structure. The superficial layer of the organ was composed of remnants of kidney tissue. Inside this layer was a whitish looking, soft material. This was made up of spherical masses separated by cystic spaces. In one situation there was a finger-like projection of softish tumour formation leading through the pelvis of the kidney into the ureter. The microscopical appearance of the tumour was identical in all the parts examined. The greater part had the structure of sarcoma, and interspersed throughout were tubules which Dr. Bradley regarded as newly-formed tubules. The fact that these tubules were found in a portion of the tumour derived from the ureter, and at some distance from the kidney rendered their presence of pathological importance. The sarcoma elements were partly round-cells, partly spindle-cells, and partly atypical. In some areas there was some reactive fibrous tissue, splitting up the tumour into islands of sarcoma. The tubular formation was not equally well developed in all places. Islets of badly-formed structures suggestive of renal tubules were seen in places, while in others the tubules were well marked, and were lined with layers of cuboid epithelium. Dr. Bradley spoke of a similar microscopical appearance observed in a tumour sent to the Bureau of Microbiology. He regarded the tumour as a neoplasm arising at an early stage of the development, when the embryonic tissue was still not clearly differentiated.

The second section was derived from the fatty tissue surrounding a breast. The patient, a woman of over 50 years of age, presented the signs of a chronic mastitis. As she had lost her mother from cancer of the breast, she was very anxious to submit to early treatment. A portion of the fatty tissue was therefore removed for diagnostic purposes. Microscopically ill-defined greyish white nodules were seen scattered throughout the sub-areolar tissue. These masses had somewhat of the appearance of tubercles, but on closer examination it was evident that they were not tubercular in nature. They cut like cartilage, and on microscopical examination it was seen that they were composed of epitheloid cells, with curious stippling, highly suggestive of sebaseous cells. He gave a guarded opinion as to the nature of the tumour, but advised

the removal of the breast on the assumption that it was a tomour arising from the sebaceous glands of low malignancy. The breast was removed with the adjacent fatty tissue. The same appearances were found where fat was present. The sections showed in addition large giant cells with numerous nuclei up to 24 or more. Dr. Cleland had arrived at the same conclusion as the speaker, that the tumour was an endothelioma of low malignancy, arising from a sebaceous gland.

Dr. Bradley also showed some sections of a melanoma, showing angiomatous structure. The section was composed of pigmented cells of a true melanotic type, and areas of pure sarcomatous nature, in addition to the vascular overgrowth.

A further specimen was exhibited for the purposes of demonstrating fat staining by means of alcoholic solutions of alcanin. The section was derived from the liver of a child dead of gastro-enteritis.

The last section shown was that of a cyst from the coccygeal region of a child. The fibrous walls of the cyst were devoid of epithelial lining. Curious fibres were seen in the section stained with iron-hæmatoxylin. Dr. Bradley pointed out that these fibres proved to be striated muscle, when stained in other ways.

The Hon. Dr. J. B. Nash exhibited some specimens of prostates removed by the supra-pubic method. He stated that up till quite recently supra-pubic cystotomy was regarded as extremely dangerous. The mortality, even in the hands of experienced surgeons, was not lower than 20 per cent. On the other hand, the death-rate of perineal cystotomy was as low as 5 per cent. New methods, however, had brought about an improvement, and the results which he had obtained in patients of 65, 70, and 75 years of age were highly satisfactory. He was of opinion that the improvement was largely due to the method of drainage. He used a Sprengler's tube. Using chromic gut, he applied a purse-string suture, and tied the horizontal limb of the tube in place. The advantage of this method was that it allowed of constant irrigation of the bladder. In regard to the operation, he opened the prostatic urethra, either laterally or in the centre, swept his finger round, and without difficulty shelled out each lobe. In dealing with adenomata of the prostate, he stated that they behaved like those of the thyroid and other glands. They could be shelled out without injury to the adjacent parts. They were composed of large numbers of minute tumours.

Dr. Gordon Craig raised the question whether the kidney tumour, exhibited by Dr. Bradley, and consisting of sarcomatous cells, epithelium and tubules, should not be described as a hypernephroma. He expressed himself very guardedly, as he had not had an opportunity of examining the specimen.

In regard to Dr. Nash's communication, he agreed that the supra-pubic method should be adopted for adenomatous enlargement of the prostate. He did not agree with Dr. Nash in regard to the improved results being due to improved drainage. In his experience the lives of old people were subjected to less risk now; the renal function was always tested by the various accurate means at disposal, and a long preliminary treatment was instituted when this function was abnormal.

Dr. Nash dealt with Dr. Bradley's kidney case. He was of opinion that pathologists had been confused in regard to renal tumours, and that the use of terms such as hypernephromata, mesotheliomata, sarcomata, etc., did not lessen the confusion. A fresh classification was needed. He gave some details of a renal tumour which had come under his notice recently.

In his reply, Dr. Bradley stated that he had not called the tumour a hypernephroma, because, as Dr. Nash had pointed out, the whole subject was confused. It used to be supposed that all hypernephromata arose in the suprarenal capsule, but this was denied by many authorities.

Dr. Nash supplemented his remarks on the use of Sprengler's tube.

Dr. Harrie Harris read a paper on "Pyonephrosis and Hydro-nephrosis," which will be published in a subsequent issue of the "Medical Journal of Australia."

MEDICO-POLICICAL.

A meeting of the Council of the Victorian Branch was held at the Medical Society Hall, on Wednesday, September 30, 1914, Dr. Kenny, the President, in the chair. Dr. Kenny reported that a Conference had been held with members of the Schools' Medical Board of the Council of the Bush Nursing Association, and of the Trained Nurses' Association, on the matter of bush nursing. Certain matters had been cleared up more or less satisfactorily. It was stated by the Medical Inspectors of Schools that the work of the bush nurses was not medical work in the strict sense, and that whatever was ascertained by the nurses in their work would be reported to the medical inspectors of the department, who, in turn, would report to the parents. Such information would not pass through the nurses directly to the child's parents. It was also stated that the schedule headed "Medical Inspection, Nurses' Examination," was not medical inspection by nurses, but was merely a departmental symbol to enable the department to docket all information received from these sources. There was an assurance that the Bush Nursing Association had the strictest regulations against the interference by nurses with doctors' work, and that it was its desire to learn of any such interference, and it would deal with it severely.

Dr. Kenny also reported some communications he had had with the Department of External Affairs with regard to a possible shortage of anæsthetics; a long list of articles prohibited or restricted in their exportation from Great Britain, was ordered to be supplied to the press. With regard to medical practitioners who had volunteered to go with the Australian Imperial Expeditionary Forces, the Minister of Defence promised to arrange for a contract of service for 12 months in exceptional cases, but refused to make such a limited service of general application. It was pointed out that in England the medical man sign on "for 12 months or until the termination of the war, whichever happens first."

The Organization Committee reported that the District Secretary of the Ancient Order of Forresters had asked the Secretaries of their Courts to eliminate certain doctors from their list, and give those doctors Lodge members to the medical practitioners who had the largest numbers; that this move had been made in violation of the truce proclaimed a few weeks previously (that nothing should be done by either side to interfere with the status quo until after the termination of the war); that a letter had been sent to the Secretary asking if the information received was correct; that a formal acknowledgment of that letter had been received; that it was arranged that meetings should be held to circumvent this move on the part of the A.O.F.; that a number of meetings had been held, and evidence collected. It was resolved by the Council that a circular letter should be sent to each Secretary of the Courts and to the members of the Executive of the A.O.F., setting forth the facts of the case.

In answer to a request from the Minister of Health, Drs. Jeffreys Wood and F. Miller Johnson were nominated as representatives of the Victorian Branch (B.M.A.) on the Infectious Diseases Hospital Board of Management.

The following were elected members of the Branch:—

Hugh Stanislaus Bourke (Goroke).
Alexander Cook (Rupanyup).
Thomas Whitecross Hoggarth (Dunolly).

The Manager of the "Australian Medical Journal" (now in liquidation) reported that after making allowance for bad debts, there was a credit balance of £145 2s. 6d. It was resolved that the Journal be immediately wound up, and that the Victorian Medical Society purchase the assets at a price to be determined later.

The question of paying £1 per member per annum after January 1 next for the "Medical Journal of Australia" was fully discussed in the light of a statement of possible receipts and expenditure prepared by the Hon. Treasurer. It was decided to inform the Directors of the Australian Medical Publishing Co. that this Branch could not comply with the request, but that it would be willing to give the largest lump sum possible at its next balance-sheet, after its own needs had been satisfied. It was announced that the business for next meeting would be a paper by Dr. Arthur Sherwin on "Some Recent Research in Eclampsia."

The following have been elected members of the New South Wales Branch:—

Dr. James Arthur Murphy, Goulburn.
Dr. Ulick Bourke, Dungog.

The following have been nominated for membership:—

Dr. Joshua Young Wai, Goodooga.
Dr. Thomas R. Earls Davis, Royal Prince Alfred Hospital.

Medical Appointments Vacant

DEPARTMENT OF TRADE AND CUSTOMS.
QUARANTINE SERVICE.

APPLICATIONS are invited for the position of QUARANTINE OFFICER in the Commonwealth Quarantine Service. Applicants must be qualified medical graduates, and must state their age and record of experience.

Salary, £400 per annum.

The position is exempted from the provisions of the Public Service Act or any of its amendments.

Preference will be given, other things being equal, to candidates holding the Diploma of Public Health.

The Successful Applicant will be required to take up duty at Brisbane or such other Station as may be directed.

Applications should be addressed to the Director of Quarantine, 51 Spring Street, Melbourne, and should be lodged on or before October 31st, 1914.

F. G. TUDOR,
Minister for Trade and Customs.

COMMONWEALTH NAVAL DOCKYARD, COCKATOO ISLAND, SYDNEY.

APPOINTMENT OF CIVILIAN MEDICAL OFFICER.

APPLICATIONS are invited from Qualified Medical Practitioners for appointment as MEDICAL OFFICER (Civilian) at the **Commonwealth Naval Dockyard, Cockatoo Island, Sydney.**

Appointment will be for three years, at a consolidated salary of £400 per annum, and may be terminated by a month's notice on either side. The successful applicant will be required to pass a medical examination as to physical fitness, and must take up duty at his own expense.

Full particulars are advertised in the Commonwealth Gazette of the 3rd October, 1914, and may be obtained on application to the Naval Secretary, Navy Office, Melbourne, or from the District Naval Officer, Naval Staff Office, Brisbane, Sydney, Adelaide, Fremantle, and Hobart.

Applications must reach the Naval Secretary, Navy Office, Melbourne, not later than 2nd November, 1914.

S. A. PETHEBRIDGE,
Secretary.

Department of Defence, Melbourne.

Medical Appointments Sought, etc.

LOCUM TENENS.—M.D. desires Engagement. Apply G.P.O., Sydney, N.S.W., Box 2373.

Dr. Nash desires to let his rooms, 219 Macquarie Street, Sydney, during his absence on military duty.

Births, Marriages, and Deaths.

The charge for inserting announcements of Births, Marriages and Deaths is 5s., which sum should be forwarded in money orders or stamps, with the notice, not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

Death.

GRIGSON.—On October 8, 1914, at a private hospital, Darlinghurst, Sydney, Charles William Grigson, aged 66 years.

Diary for the Month.

Oct. 20.—New South Wales Branch, B.M.A., Council Meeting.
Oct. 21.—Western Australian Branch, B.M.A., Branch Meeting.
Oct. 21.—Victorian Branch, B.M.A., Clinical Meeting.
Oct. 23.—Melbourne Hospital Clinical Meeting.
Oct. 27.—New South Wales Branch, B.M.A., Committee Meetings.
Oct. 27.—Victorian Branch, B.M.A., Eye and Ear Section.
Oct. 28.—Victorian Branch, B.M.A., Council Meeting.
Oct. 29.—South Australian Branch, B.M.A., General Meeting.
Oct. 30.—New South Wales Branch, B.M.A., Ordinary Meeting.
Nov. 3.—New South Wales Branch B.M.A., Council Meeting.
Nov. 4.—Opthalmological Society of New South Wales.
Nov. 13.—New South Wales Branch B.M.A., Clinical Evening.
Nov. 17.—New South Wales Branch B.M.A., Council Meet-
Nov. 18.—Western Australian Branch B.M.A., Branch Meeting.
Nov. 24.—Victorian Branch B.M.A., Eye and Ear Section.
Nov. 24.—New South Wales Branch B.M.A., Committee
Nov. 26.—South Australian Branch, B.M.A., General Meeting.

Warning Notices.

Medical Practitioners are requested to communicate with the Honorary Secretary of the Branch of the British Medical Association before applying for any appointments referred to below:—

Branch.	APPOINTMENTS.
QUEENSLAND. (Hon. Sec. B.M.A. Building, Adelaide Street, Brisbane).	Brisbane United F.S. Institute. F.S. Lodges at Longreach. F.S. Lodges at Warwick.
WESTERN AUSTRALIA. (Hon. Sec. 230 St. George's Terrace, Perth).	Swan District Medical Officer. All Contract Practice Appointments in W.A.
NEW SOUTH WALES. (Hon. Sec. 30-34 Elizabeth Street, Sydney).	Australian Natives Association. Balmain United F.S. Dispensary. Burwood District F.S. Institute. Goulburn F.S. Association. Leichhardt and Petersham Dispensary. M.U. Oddfellows Med. Inst., Elizabeth Street, Sydney. N.S.W. Ambulance Association and Transport Brigade. N. Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Braidwood. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Mudgee. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Granville, Penrith and Auburn. Killingworth Colliery, Newcastle. Seaham Colliery No. 1, Newcastle. Seaham Colliery No. 2, Newcastle. West Wallsend Colliery, Wallsend.
SOUTH AUSTRALIA. (Hon. Sec. 3 North Terrace, Adelaide).	The F.S. Medical Assoc. Incorp., Adelaide.

EDITORIAL NOTICES.

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